UC-NRLF

$C 173 637

Dupl.

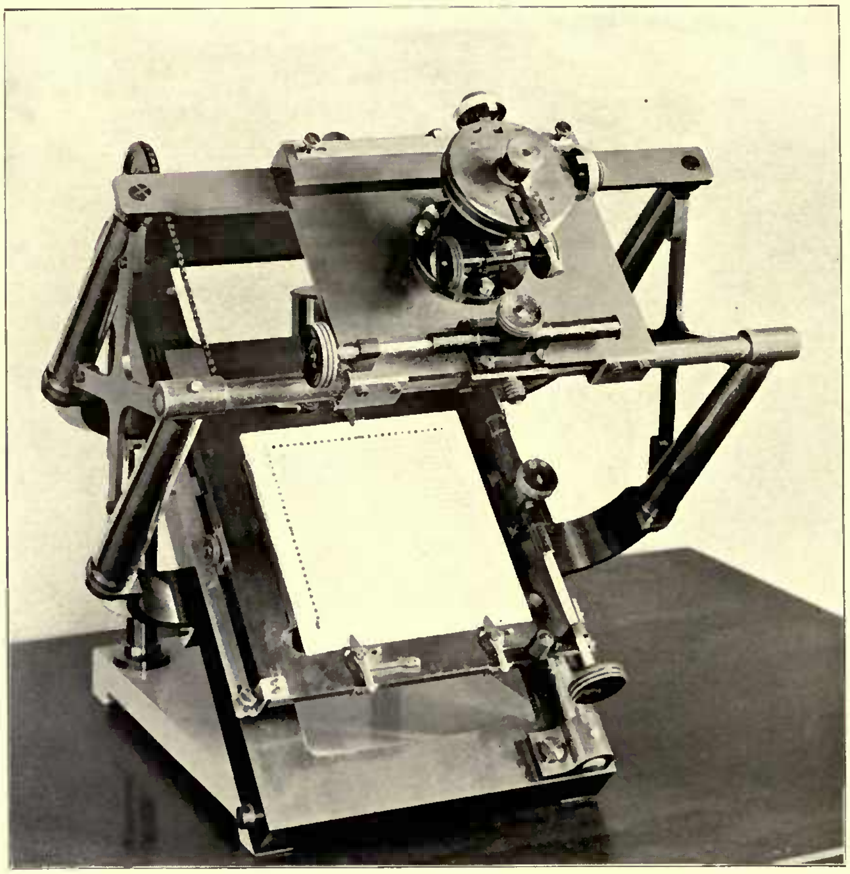
ROYAL OBSERVATORY, GREENWICH.

# OBSERVATIONS OF THE PLANET
# EROS.

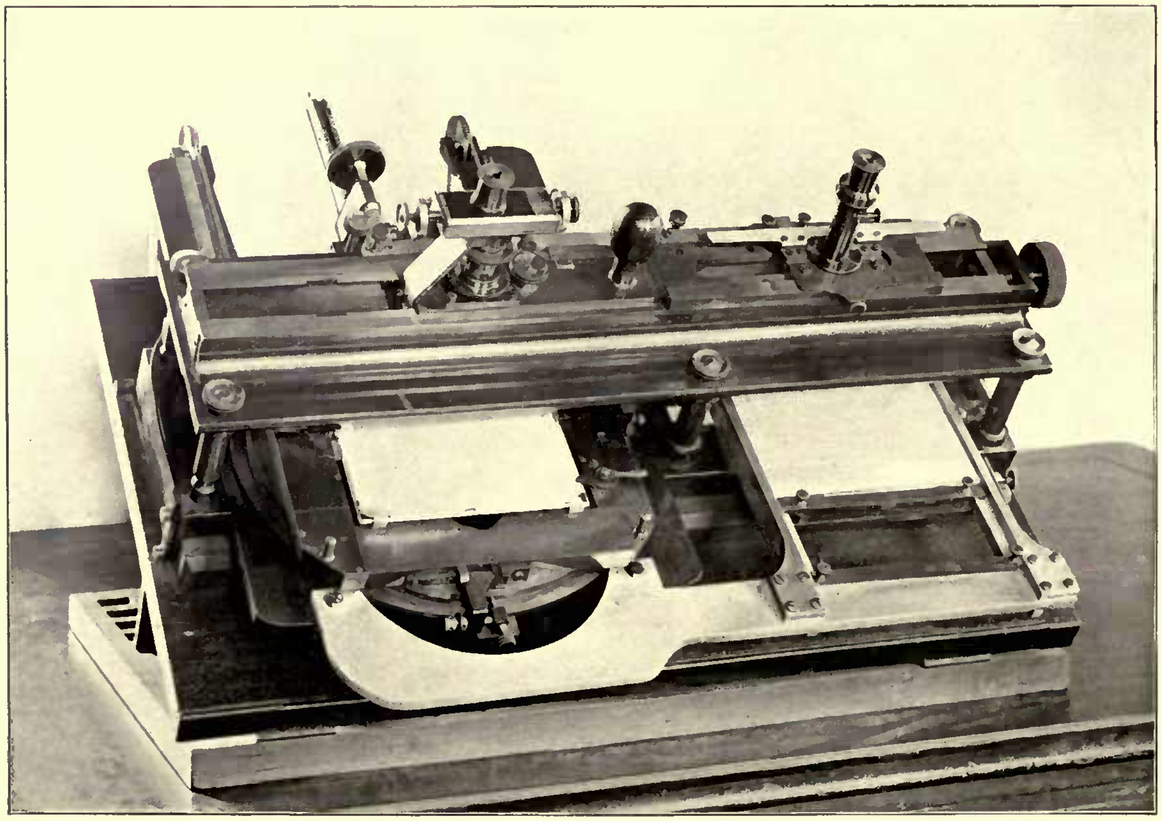
1900–1901.

BERKELEY
LIBRARY
UNIVERSITY OF
CALIFORNIA

F. j. 11.



EROS MICROMETER.



DUPLEX MICROMETER.
Used for determining division-errors.

# OBSERVATIONS OF THE PLANET EROS

## 1900—1901

FOR DETERMINATION OF THE

## SOLAR PARALLAX

FROM PHOTOGRAPHS TAKEN AND MEASURED AT THE

ROYAL OBSERVATORY, GREENWICH,

UNDER THE DIRECTION OF

SIR WILLIAM HENRY MAHONEY CHRISTIE, K.C.B., M.A., D.Sc., F.R.S.,
ASTRONOMER ROYAL.

(*Forming an Appendix to the Volume of Greenwich Observations for the Year* 1905.)

EDINBURGH:
PRINTED FOR HIS MAJESTY'S STATIONERY OFFICE
BY NEILL & CO., LIMITED, BELLEVUE.

1908.

*Price Seven Shillings and Sixpence.*

[*All Rights Reserved.*]

Main Lib

QB516
G7

# INDEX.

PAGE
ERRATA . . . . . . . . . . . . . v

INTRODUCTION—

Introductory Statement . . . . . . . . . . vii

The Telescopes . . . . . . . . . . . ix
- *Astrographic Equatorial* . . . . . . . . ibid
- *Thompson Equatorial* . . . . . . . . . ibid
- *Scheme of Observation* . . . . . . . . . xi

Measurement of the Photographs . . . . . . . . xii
- *The Microscope* . . . . . . . . . . ibid
- *The Glass Scale and Micrometer Screws* . . . . . . . xiv
- *Division Errors of the Glass Scale* . . . . . . . . xv
- *Distortion of the Field of the Microscope Object-glass* . . . . . xvii
- *Measurement of the Photographs of Eros* . . . . . . . xix
- *The Accuracy of the Measures* . . . . . . . . . xx

Reduction of the Measures . . . . . . . . . xxiii
- *Differential Refraction* . . . . . . . . . ibid
- *Plate Constants, Astrographic Plates* . . . . . . . . xxv
- *Reduction to M. Loewy's System of Star-places* . . . . . . xxviii
- *Comparison Stars* . . . . . . . . . . ibid
- *Plate Constants, Thompson Plates* . . . . . . . . xxix

Division Errors of the Réseau . . . . . . . . . ibid
- *Provisional Division Errors* . . . . . . . . . xxx
- *Supplementary Division Errors* . . . . . . . . . xxxii
- *Supplementary Division Errors of the Central Lines on the Silver Réseau* . . xxxiv
- *Comparison between the Réseau and the Photographs* . . . . . . xxxvi
- *Examination of the Straightness of the Réseau Lines* . . . . . . xl
- *Straightness of Lines on Prints* . . . . . . . . . xliii

Discussion of the Residuals of Stars . . . . . . . . xlvi
- *Results of the Investigation of Supplementary Division Errors* . . . . lii
- *Distortion of the Object Glass of the Astrographic Telescope* . . . . liii

300—Wt. 29721—3/08.—N. & Co., Ltd.

COMPARISON OF OBSERVED PLACES OF EROS WITH THE EPHEMERIS . . . . . lviii
*Errors of the Ephemerides from Means of Groups of Photographs—*
*Astrographic Photographs* . . . . . . . . lxii
*Thompson* „ . . . . . . . . lxiii
*Astrographic and Thompson combined* . . . . . . lxiv
*Mean Accidental Error of a Place of Eros* . . . . . . lxv
*Adopted Errors of the Ephemerides* . . . . . . . lxvi

DETERMINATION OF THE SOLAR PARALLAX . . . . . . . . lxvii
*Determination of the Solar Parallax from Right Ascensions of Eros—*
*Astrographic Photographs—Reference Stars* . . . . . . lxix
*Astrographic Photographs—Comparison Stars* . . . . . . lxx
*Thompson Photographs—Comparison Stars* . . . . . . lxxi
*Astrographic and Thompson Combined—Comparison Stars* . . . lxxii
*Evening to Morning Comparisons* . . . . . . lxxiv
*Morning to Evening Comparisons* . . . . . . lxxv
*Systematic Difference between the Comparison Stars and Reference Stars* . . lxxvi
*Mean Residuals of Reference Stars within 25′ of the Plate Centre* . . . lxxviii
*Provisional Parallax Results uncorrected for Residual Division Error* . . . lxxix
*Solar Parallax from Declinations of Eros*
*Astrographic Photographs* . . . . . . . lxxxi
*Thompson Photographs* . . . . . . . . lxxxii

CONCLUSION . . . . . . . . . . . . . lxxxiii

DETERMINATIONS OF THE SOLAR PARALLAX—COLLECTED RESULTS . . . . lxxxv

RESULTS OF MEASURES OF PHOTOGRAPHS OF THE PLANET EROS—

TABLE I.—*List of Photographs of Eros* . . . . . . . . 3
TABLE II.—*Measured Co-ordinates and Residuals, Astrographic 13-inch Refractor* . . 9
TABLE III.—*Measured Co-ordinates and Residuals, Thompson 26-inch Refractor* . . 62
TABLE IV.—*Plate Constants, Astrographic 13-inch Refractor* . . . . . 75
TABLE V.—*Plate Constants, Thompson 26-inch Refractor* . . . . . . 81
TABLE VI.—*Residuals from Photographs and Deduced Places of Reference Stars* . . 86
TABLE VII.—*Mean Places of Reference Stars 1900·0* . . . . . 127
TABLE VIII.—*Mean Places of Comparison Stars Deduced from Photographs* . . . 131
TABLE IX.—*Adopted Places of Comparison Stars* . . . . . . . 144
TABLE A.—*Corrections for Supplementary Division Errors of Réseau* . . . . 146
TABLE X.—*Observed Places of Eros and Deduced Corrections to Tabular Places from Photographs taken with the Astrographic and Thompson Refractors* . . 148

ADDENDUM—

*Measures of Additional Stars required for the Reduction of Photographs taken with the Crossley Reflector at the Lick Observatory* . . . . . . . 157

# ERRATA.

PAGE

5. Plate 5283, Position of Telescope, *for* W, *read* E.

Plates 852, 853, Position of Telescope, *for* E, *read* W.

6. Plate 5360, delete the whole.

Plates 869, 870, 871, 899, 900, 901, Position of Telescope, *for* E, *read* W.

7. Plate 928, Position of Telescope, *for* E, *read* W.

19. Plate 5192, *y* residuals of Comparison stars,

| | | | |
|---|---|---|---|
| | ″ | | ″ |
| *for* | +·08 | *read* | −·10 |
| ,, | +·09 | ,, | −·09 |
| ,, | +·23 | ,, | +·05 |
| ,, | +·02 | ,, | −·16 |
| ,, | +·31 | ,, | +·13 |
| ,, | −·02 | ,, | −·20 |
| *for* Mean | +·12 | ,, | −·06 |

26. Plate 5222, Comparison star No. 80, *y* co-ordinate, *for* 2701·54, *read* 3001·54.

48. Plate 5342, Comparison star No. 36°450, *y* co-ordinate, *for* 4551·51, *read* 4451·51.

51. Plate 5354, col. 2, sixth star. No. in B.D., *for* 33°454, *read* 34°454.

65. Plate 802, Comparison star No. 114, *y* co-ordinate, *for* 1441·63, *read* 1141·63.

132. Star No. 20, Minutes of Declination, *for* 11′ *read* 21′.

Tables II. and IV. Footnotes. The dagger (†) is sometimes affixed to stars rejected for other reasons than those assigned.

# GREENWICH OBSERVATIONS OF EROS, 1900–1901.

## INTRODUCTION.

### I. INTRODUCTORY STATEMENT.

At the meeting of the International Astrographic Conference at Paris in July 1900, a special committee under the presidency of the late M. Loewy discussed arrangements to be made for visual and photographic observations of the planet Erôs during the opposition 1900–1901 by a number of co-operating observatories, with a view to a more accurate determination of the solar parallax, for which the near approach of the planet offered a favourable opportunity.

At Greenwich, arrangements were made for photographic observations of Eros with the Astrographic 13-inch refractor and the Thompson 26-inch refractor, the scale of which is just double that of the Astrographic. For determination of the Solar Parallax by the diurnal method, photographs were taken east and west of the meridian at about 60° zenith distance, as far as the conditions would allow, and also photographs as near the meridian as practicable, with a view to determining the position of the planet unaffected by parallax. By limiting the zenith distance for the east and west photographs to 60°, the practical troubles arising from atmospheric refraction, dispersion, and absorption at low altitudes were avoided, without appreciable loss in the parallax factor.

The alternatives of guiding the telescope on Eros and allowing the stars to trail slightly, or *vice versâ*, were carefully considered, and after some trials it was decided to guide on the stars, allowing Eros to trail. In February 1901, however, the faintness of the planet and its rapid motion made it necessary to reverse the process. Four exposures were usually given, the images being at the angles of a square of 20″ in the side, and all four images were measured.

For the reduction of the measures of Eros on the photographs, M. Loewy formed a catalogue of Reference Stars covering a region of about 70′ on either side of the path of Eros, selected so that about twelve stars should be available for an Astrographic plate covering 2° × 2°. The places of these stars were determined by meridian observations specially made by several observatories, those at Greenwich being taken with the New Altazimuth or Reversible Transit-Circle in the meridian. The provisional places, used for the reduction of the Greenwich photographs, were formed from the separate results for each observatory, published in the Eros Circulars issued by M. Loewy, the system of weighting described in Section IV. of this Introduction being adopted. Subsequently, when M. Loewy published his concluded places based on a slightly different system of weighting, corrections were applied, for the sake of uniformity, to reduce the Greenwich provisional results to his system, to which the final results are all referred.

The Reference Stars used for each plate were confined to a radius of 55′ from the centre of the plate, so as to be sensibly unaffected by optical distortion.

For the Thompson photographs with a field of 60′ square, six Comparison Stars within a radius of 25′ from the centre were selected, so as to be distributed as nearly symmetrically about Eros as practicable. These stars were chosen so as to be fairly comparable in brightness with Eros, which ranged from magnitude 9 to 10 during the period of observation, and was much fainter than the average of the Reference Stars. These Comparison Stars were also used for the Astrographic plates as additional points of reference for Eros, with which, as already mentioned, they were more nearly comparable. Their places were determined from the Astrographic photographs, the plate-constants being determined from the Reference Stars.

The plan of the Eros Commission contemplated, ultimately, the combined discussion of the photographs taken at all the co-operating observatories, but there is obviously great difficulty in treating such a mass of heterogeneous material, and it seems desirable, in the first instance, to discuss separately the observations of the individual observatories, and deduce a value of the solar parallax in each case.

With this view the results obtained from the Greenwich photographs are given in Section VIII. of this Introduction. There were in all 197 photographs taken with the Astrographic 13-inch refractor and 153 taken with the Thompson 26-inch refractor between 1900 October 1 and 1901 February 25, measures of which are given in this volume; but, for the determination of the solar parallax, the discussion has been confined to the period from 1900 October 14 to 1901 January 18 (151 photographs with the Astrographic and 103 with the Thompson), the material before and after these dates not being suitable for determination of the solar parallax, though useful for the position of Eros.

## II. THE TELESCOPES.

The instruments used for taking the photographs were the 13-inch Astrographic Refractor and the 26-inch Refractor of the Thompson Equatorial. The two telescopes were used concurrently throughout the opposition.

The *Astrographic Equatorial* is mounted in a dome of 18 feet diameter, 57 feet W. and 4 feet N. of the centre of the transit-circle. The dome has a sectorial shutter, coming to a point at the zenith, and opening $\frac{1}{6}$th of the circumference. The instrument is at a height of 30 feet above the ground. It was constructed by Sir Howard Grubb, F.R.S., on the lines laid down by the *Congrès Astrophotographique Internationale pour le Levé de la Carte du Ciel* in 1887. It consists of a 13-inch photographic refracting telescope and a parallel 10-inch visual guiding telescope in steel tubes firmly connected, mounted equatorially in the German form. The apertures of the object-glasses are $13^{\mathrm{in}}\cdot0$ (or $0^{\mathrm{m}}\cdot33$) and $10^{\mathrm{in}}\cdot0$ (or $0^{\mathrm{m}}\cdot25$), and the focal lengths of both are $135^{\mathrm{in}}\cdot1$ (or $3^{\mathrm{m}}\cdot43$), so that the scale of a plate placed in the focal plane is $1^{\mathrm{mm}}$ to $1'$. [More precisely, the focal length of the photographic telescope is $3^{\mathrm{m}}\cdot441$, so that $1^{\mathrm{mm}}$ represents $0'\cdot9990$.] The photographic telescope is corrected as regards spherical and chromatic aberration for rays near Fraunhofer's line G. It is arranged to carry a plate $16^{\mathrm{cm}}$ square with special provision for exact focussing and orientation. The mounting is so arranged as to allow of a motion of $1\frac{1}{2}$ hours beyond the meridian on each side without reversing the telescope. A large counterpoise is necessary, both because of the double weight and of the distance of the two telescopes from the polar axis. Some further details and a photograph of the instrument are given in the *Astrographic Catalogue, Greenwich Section,* vol. I.

The *Thompson Equatorial* is mounted in a dome of 30 feet diameter, on the central tower of the New Observatory building, 350 feet S. and 224 feet E. of the centre of the transit-circle. It was first brought into use at the end of 1898. The shutter opening of the dome extends from the zenith to the horizon, and is closed by a single curved shutter $3\frac{1}{2}$ feet wide at the zenith and 6 feet wide at the horizon. The 26-inch refractor, with its guiding telescope, the Merz refractor, and a 9-inch photoheliograph are carried at one end of the declination axis, and are counterpoised by the 30-inch reflector and its guiding telescope which are mounted on the other end. The mounting is of the German form, but allows of complete circumpolar motion without reversal. The 26-inch refractor is of $270^{\text{in}}$ (or $6^{\text{m}}{\cdot}86$) focal length, so that the scale of a plate placed in the focal plane is $2^{\text{mm}}$ to $1'$. It is corrected for aberration for rays near Fraunhofer's line G. The breech-end of the instrument is arranged for a plate carrier taking photographic plates $30^{\text{cm}}$ square, suitable adapters being inserted when smaller plates are used. For the photographs of Eros, plates $16^{\text{cm}}$ square were used, as in the Astrographic telescope. The Merz refractor, which serves as a guiding telescope, has an aperture of $12\tfrac{3}{4}^{\text{in}}$ and a focal length of $214^{\text{in}}$.

In the Astrographic telescope the photographic plate rests on three rounded agate points, which can be adjusted by screws. In the Thompson telescope, the plate-holder itself rests on three steel bearing pins. The tilt of the plate is determined by means of a small collimating telescope with cross wires, mounted on a clear glass plate placed on the agates, or in the plate-holder, in the same manner as a photographic plate. A point at the centre of the object-glass is examined in reversed positions of the small collimator. The tilt never exceeded $2'$.

Ilford "Special Rapid" or Barnet "Rocket" plates were used, and developed with Pyro-soda or with Metol.

The réseau of cross-lines $5^{\text{mm}}$ apart was printed on the plates either before or after the exposure to Eros, but in any case before the development of the plate. For this purpose a photographic dark slide containing a silver-on-glass réseau and the photographic plate almost in contact with the ruled surface of the réseau, but separated from it about $0{\cdot}3^{\text{mm}}$ by thin pieces of platinum foil at the corners, was mounted outside the object-glass of the Astrographic telescope and exposed for a sufficient time to an electric lamp in the focus of the telescope. The same réseau (Gautier No. 90) was printed on all the Eros plates whether taken with the Thompson or Astrographic telescope, the object-glass of the Astrographic telescope being used to give the parallel beam of light for both series of plates.

The silver-on-glass réseau was kept permanently fixed in its dark slide. In order to secure that the plate should be correctly oriented relatively to the réseau, the ground edge of the plate was brought into contact with two bearing studs in the dark slide. The plate when exposed to Eros was also brought into contact with corresponding bearing studs in the telescope, but naturally these were reversed with the telescope in passing from the position E. to W. of the pier. Accordingly, it happened that when a photograph had been taken with the Astrographic telescope W. of the pier (easterly hour-angles) the réseau was printed direct, *i.e.* with the réseau readings increasing with increasing R.A. and Dec., but with the telescope E. of the pier (westerly hour-angles) the réseau was printed reversed. This rule holds for all the Astrographic plates except No. 5279, on which the réseau was accidentally rotated through 90°. For the Thompson equatorial the position E. of the pier was used for easterly hour-angles and réseau direct, but the plate-carrier of the telescope could be reversed if desired. During the latter part of the opposition this reversal was sometimes made in order to avoid the reversal of the réseau relative to the sky. The positions of the réseau on the Thompson photographs do not, therefore, follow a strict rule after 1900 December 19.

The opposition of Eros occurred on 1900 October 30, and the nearest approach of Eros to the Earth on December 26. During the early part of the opposition the declination of the planet increased, reaching a maximum of 54° 21′ on November 9, after which it decreased continually.

Photographs were not taken when the planet was at a greater zenith distance than 60°, nor within an hour of sunrise or sunset. The following table shows the limiting hour-angles between which photographs could be taken (subject to the above restrictions) and the greatest difference of parallax in right ascension attainable at Greenwich.

| Date. | Equatorial Horizontal Parallax. | Limiting Hour-Angles. | | Maximum Difference of Parallax in R.A. attainable. |
|---|---|---|---|---|
| | | E. | W. | |
| | ″ | h | h | ″ |
| 1900 October 1 | 15 | 6½ | 2½ | 14 |
| „ 15 | 18 | 7 | 3¾ | 20 |
| November 1 | 21 | 6½ | 5½ | 26 |
| „ 15 | 24 | 5 | 7 | 29 |
| December 1 | 27 | 3½ | 7½ | 31 |
| „ 15 | 28 | 3 | 6½ | 29 |
| 1901 January 1 | 28 | 2½ | 6 | 27 |
| „ 15 | 27 | 2 | 5½ | 25 |
| February 1 | 26 | 2 | 4¾ | 20 |
| „ 15 | 23 | 2 | 4¼ | 16 |
| March 1 | 21 | 2 | 4 | 11 |

Accordingly, the most favourable period for the determination of parallax was about December 1.

As far as possible two (or sometimes three) photographs were taken with each instrument, near the limiting hour-angles. Plates were also taken near the meridian with a view to obtaining the place of Eros free from any uncertainty in the parallax.

The plate-centre was kept the same throughout each night, being set for the place of Eros at midnight.

From the beginning of the observations up till February 5 inclusive the telescopes were made to follow the stars, allowing Eros to trail; from February 6 the telescopes were made to follow Eros. The photographs after February 6 are few in number, and have not been used in the determination of the solar parallax given in Section VIII.

Table I. contains the list of photographs obtained, suitable for measurement and reduction. In general four exposures, two of $3^m$ and two of $2^m$, were made on each plate, the four images of any star forming a square of 20″ side ($0^{mm}\cdot33$ for Astrographic and $0^{mm}\cdot66$ for the Thompson photographs). A fifth exposure of $1^m$ was made for orientation, the driving clock being put out of gear for $3^m$ between the fourth exposure and this; but the corresponding images have not been measured, as it was afterwards decided not to make use of them.

Except on a very few occasions when the passage of clouds caused delay, the series of four exposures was completed within 14 minutes. The beginning and end of each exposure were noted by the observer to the nearest second; and the observing clock frequently compared with the Sidereal Standard Clock.

## III. MEASUREMENT OF THE PHOTOGRAPHS.

For the measurement of photographs of Eros, a new micrometer was obtained from Messrs. Troughton and Simms early in 1903, in which the principle adopted by Mr. Hinks in the Cambridge micrometer (*Monthly Notices*, lxi. p. 444) of a divided glass scale in the focal plane moved by micrometer screws was employed. The new features in the Greenwich micrometer are (i) the microscope, which is arranged so that its object-glass can be used to give magnification 2 or 1, so as to adapt it to photographs taken either with the Astrographic refractor, focal length 11 ft. 3 in. (3·4 metres), or with the Thompson refractor, focal length 22 ft. 6 in. (6·8 metres); (ii) the glass scale is ruled with pairs of lines so spaced as to admit of very accurate pointing on the réseau line placed between them.

The general appearance of the micrometer is shown in the upper figure in the Frontispiece.

### *The Microscope.*

The microscope is designed so that a magnification of 1 or 2 by the object-glass can be used at will, the magnification 1 being used for the photographs taken with the Thompson equatorial, and 2 for those taken with the Astrographic equatorial. In order that the field may be well covered it is desirable to have an object-glass of as long focus as practicable, the limit being determined by the condition that the eye-end should be at a height convenient for the measurer. Mr. Simms was able to supply an achromatic object-glass of 17$^{mm}$ diameter and 78$^{mm}$ focal length, of the same make as one supplied to Sir David Gill for the Cape Observatory. With the magnification 1 the object-glass would be at a distance of 156$^{mm}$ (roughly 6¼ inches) from the plate, and at an equal distance from the focal plane. For magnification 2 the object-glass must be 39$^{mm}$ nearer the plate, and the focal plane is brought 39$^{mm}$ further from the plate. The object-glass is brought from the first to the second position by means of an adapter of the required length.

The eye-end of the microscope may be set in either of two alternative positions. This is arranged by a slot of the required length (39$^{mm}$) which permits of motion in an outer tube. It is moved from one position to the other by hand, and held in position by a ring clamp.

The adjustments for focus and runs are made (i) by a rack and pinion which moves the whole microscope, and (ii) by a movement of the object-glass. The object-glass is carried by a sliding tube, from which project two studs passing through slots in the outer tube. The studs are moved by antagonistic clamping rings working on the outer tube, and thus no rotation is given to the object-glass during its adjustment.

The field of 20$^{mm}$ diameter which is required when magnification 2 is used makes it necessary that the tube of the microscope should have a large diameter, and this is an advantage in securing stability in the mounting. As stated above, the diameter of the object-glass is 17$^{mm}$, but to secure critical definition over the whole of the field a stop of 7$^{mm}$ diameter is placed inside the microscope 60$^{mm}$ from the object-glass. When the magnification 1 is used the position of the stop is not changed, and is then 21$^{mm}$ from the object-glass. The stop is of such a size that at the extremities of the field the edge of the object-glass is just not reached, so that with magnification 2 the cone of rays always proceeds from a circular portion of the object-glass of 9·7$^{mm}$ diameter. With the magnification 1 the stop, being nearer, a circle of 8·1$^{mm}$ of the object-glass, is used. The following figures give the optical details of the microscope :—

| | mm |
|---|---|
| Diameter of object-glass . . . . . . . | 17 |
| Focal length . . . . . . . . . . | 78 |
| Diameter of stop . . . . . . . . . | 7 |

With magnification 1 the object-glass is 156$^{mm}$ from the plate, and at an equal distance from the focal plane. With magnification 2 it is 117$^{mm}$ from the plate and 234$^{mm}$ from the focal plane.

The field to be measured extends $5^{\text{mm}}$ from the centre on the plate, so that the image extends $5^{\text{mm}}$ from the centre on each side for magnification 1, and $10^{\text{mm}}$ for magnification 2.

### *The Glass Scale.*

A glass diaphragm with divided scales in perpendicular directions is mounted on cross slides in the focal plane of the microscope, the slides being moved by micrometer screws. The scales, which extend $10^{\text{mm}}$ from the centre in the four directions, divide each $10^{\text{mm}}$ into thirty equal parts by pairs of lines, the distance from the centre of one pair of lines to the next being $\frac{1}{3}^{\text{mm}}$, and equal to one revolution of either of the micrometer screws. In measuring the position of a star image within a réseau square the readings of the micrometer screws are first set at zero, and the image bisected on the central cross by means of the slow motions. The micrometer screws are then moved so that the réseau lines are bisected by the nearest pairs of lines of the scale.

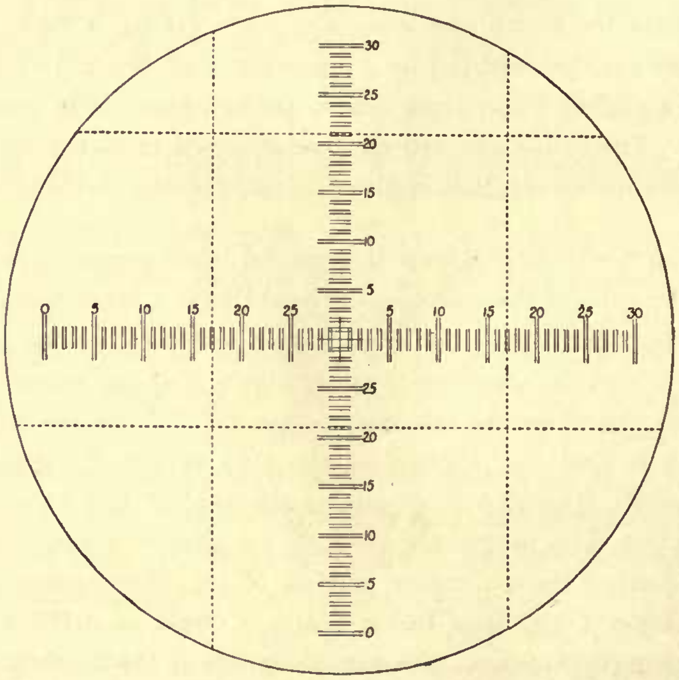


FIG. 1.—Arrangement of Scales on Glass Diaphragm.

If there were no correction for runs the two réseau lines in each direction would be simultaneously bisected. In practice this is not the case, and the difference between the two micrometer readings supplies the correction for runs. The separation of each pair of lines is $\frac{1}{9}^{\text{mm}}$, or $\frac{1}{3}$ of the distance of the centre of each pair from the centre of the next. This separation is a very suitable one in relation to the breadth of a réseau line on a photograph. It also simplified the division of the scales, as, with the exception of the centre, 90 equidistant divisions were required with every third division omitted. The division of the scale was made to agree exactly with the actual value of one revolution of the screw. For convenience of computation, therefore, the scale may be regarded as giving the integral part of the reading of the screw. With the magnification 2, used for the plates taken with the Astrographic telescope (scale $1^{mm} = 1'$),

$$1 \text{ réseau interval} = 300'' = 30 \text{ divisions of the scale};$$

so that in this case

$$1 \text{ rev. of screw} = 1 \text{ div. of scale} = 10''.$$

With magnification unity used for the Thompson plates (scale $1^{mm} = 30''$),

$$1 \text{ réseau interval} = 150'' = 15 \text{ divisions of the scale};$$

so that again

$$1 \text{ rev. of screw} = 1 \text{ div. of scale} = 10''.$$

### *Micrometer Screws.*

The total range through which the screws are used is one revolution. The value of one revolution was found sensibly equal to a mean division of the scale.

### *Division Errors of the Glass Scale.*

To determine the division errors of the scale free from the optical distortion of the object-glass of the microscope, the diaphragm was removed from the microscope and mounted in the position of the photographic plate. A second similarly divided diaphragm was substituted for it in the focal plane of the microscope. It was thus possible to compare different lengths of the scale to be measured with a standard length at the centre of the field of the microscope. In this way the total length of the scale was subdivided into five lengths of twelve divisions each. These were further subdivided in a similar manner into four lengths of three divisions, and these again into single divisions.

The errors of the corresponding divisions on the right and left, or above and below the centre of the scale, are combined in the same way as the readings of the two réseau lines in forming the measured co-ordinate of a star's image. The weights thus given to the two errors in forming the mean are inversely proportional to the distance of the divisions from the centre of the scale. The following table gives the corrections for each division and the corrections to the mean for the two réseau lines :—

*Corrections for Division Errors of Glass Scale, and the Corrections to the Mean applicable when Magnification 2 is used (Astrographic Photographs).*

| Division. | *x* Co-ordinate. | | Correction to Mean. | *y* Co-ordinate. | | Correction to Mean. |
|---|---|---|---|---|---|---|
| | Left of Centre. | Right of Centre. | | Below Centre. | Above Centre. | |
| | ″ | ″ | ″ | ″ | ″ | ″ |
| 0 | ·000 | − ·031 | − ·031 | ·000 | + ·059 | + ·059 |
| 1 | + ·026 | − ·020 | − ·018 | + ·033 | + ·029 | + ·029 |
| 2 | + ·008 | − ·015 | − ·013 | + ·001 | + ·022 | + ·021 |
| 3 | − ·007 | − ·021 | − ·020 | + ·006 | + ·032 | + ·029 |
| 4 | − ·013 | − ·047 | − ·042 | ·000 | + ·005 | + ·004 |
| 5 | + ·003 | − ·032 | − ·026 | + ·015 | + ·018 | + ·016 |
| 6 | + ·009 | − ·006 | − ·003 | + ·030 | + ·044 | + ·041 |
| 7 | + ·047 | + ·049 | + ·049 | + ·070 | + ·084 | + ·080 |
| 8 | + ·048 | + ·032 | + ·036 | + ·072 | + ·078 | + ·076 |
| 9 | + ·036 | + ·018 | + ·023 | + ·060 | + ·053 | + ·055 |
| 10 | + ·012 | + ·016 | + ·015 | + ·037 | + ·051 | + ·046 |
| 11 | + ·001 | + ·006 | + ·004 | + ·026 | + ·053 | + ·043 |
| 12 | + ·010 | + ·005 | + ·007 | + ·048 | + ·049 | + ·049 |
| 13 | + ·038 | + ·015 | + ·025 | + ·060 | + ·065 | + ·063 |
| 14 | + ·008 | + ·009 | + ·009 | + ·040 | + ·051 | + ·046 |
| 15 | − ·011 | − ·007 | − ·009 | + ·012 | + ·040 | + ·026 |
| 16 | − ·082 | − ·079 | − ·081 | − ·052 | − ·041 | − ·047 |
| 17 | − ·083 | − ·103 | − ·092 | − ·061 | − ·062 | − ·061 |
| 18 | − ·119 | − ·106 | − ·114 | − ·081 | − ·068 | − ·076 |
| 19 | − ·109 | − ·096 | − ·104 | − ·072 | − ·046 | − ·062 |
| 20 | − ·081 | − ·113 | − ·092 | − ·052 | − ·051 | − ·052 |
| 21 | − ·093 | − ·121 | − ·101 | − ·058 | − ·059 | − ·058 |
| 22 | − ·107 | − ·126 | − ·112 | − ·081 | − ·052 | − ·073 |
| 23 | − ·101 | − ·101 | − ·101 | − ·060 | − ·032 | − ·053 |
| 24 | − ·067 | − ·089 | − ·071 | − ·022 | − ·018 | − ·021 |
| 25 | − ·024 | − ·050 | − ·028 | + ·006 | + ·016 | + ·008 |
| 26 | − ·031 | − ·027 | − ·030 | ·000 | + ·030 | + ·004 |
| 27 | − ·029 | − ·023 | − ·028 | + ·005 | + ·029 | + ·007 |
| 28 | − ·033 | − ·055 | − ·034 | − ·014 | − ·004 | − ·013 |
| 29 | − ·040 | − ·069 | − ·041 | + ·003 | − ·019 | + ·002 |
| 30 | − ·031 | ·000 | − ·031 | + ·059 | ·000 | + ·059 |

With the magnification unity, only the central half of the scale is used. Thus if one réseau line is on division 5, to the right of the centre, the adjacent one falls on 20, to the left of the centre. The integer set down in the measures is the number of the division on which the réseau line to the right of (for the *x* co-ordinate) or above (for the *y* co-ordinate) the centre falls. The corrections for division errors are formed by combining those given above, as in the following table :—

### *Corrections for Division Errors of the Glass Scale and Corrections to Mean applicable when Unit Magnification is used (Thompson Photographs).*

| Divisions. | *x* Co-ordinate. | | | *y* Co-ordinate. | | |
|---|---|---|---|---|---|---|
| | Left of Centre. | Right of Centre. | Correction to Mean. | Below Centre. | Above Centre. | Correction to Mean. |
| 15, 0 | − ″·011 | − ″·031 | − ″·031 | + ″·012 | + ″·059 | + ″·059 |
| 16, 1 | − ·082 | − ·020 | − ·024 | − ·052 | + ·029 | + ·024 |
| 17, 2 | − ·083 | − ·015 | − ·024 | − ·061 | + ·022 | + ·011 |
| 18, 3 | − ·119 | − ·021 | − ·041 | − ·081 | + ·032 | + ·009 |
| 19, 4 | − ·109 | − ·047 | − ·064 | − ·072 | + ·005 | − ·016 |
| 20, 5 | − ·081 | − ·032 | − ·048 | − ·052 | + ·018 | − ·005 |
| 21, 6 | − ·093 | − ·006 | − ·041 | − ·058 | + ·044 | + ·003 |
| 22, 7 | − ·107 | + ·049 | − ·024 | − ·081 | + ·084 | + ·007 |
| 23, 8 | − ·101 | + ·032 | − ·039 | − ·060 | + ·078 | + ·004 |
| 24, 9 | − ·067 | + ·018 | − ·033 | − ·022 | + ·053 | + ·008 |
| 25, 10 | − ·024 | + ·016 | − ·011 | + ·006 | + ·051 | + ·021 |
| 26, 11 | − ·031 | + ·006 | − ·021 | ·000 | + ·053 | + ·014 |
| 27, 12 | − ·029 | + ·005 | − ·022 | + ·005 | + ·049 | + ·014 |
| 28, 13 | − ·033 | + ·015 | − ·027 | − ·014 | + ·065 | − ·003 |
| 29, 14 | − ·040 | + ·009 | − ·037 | + ·003 | + ·051 | + ·006 |
| 30, 15 | − ·031 | − ·007 | − ·031 | + ·059 | + ·040 | + ·059 |

### *Distortion of the Field of the Microscope Object-glass.*

The distortion of the field was determined for the magnification 2 by comparing intervals on the scale (whose errors had already been determined) with a standard interval. For this purpose the scale was replaced in the focal plane of the microscope and the subsidiary scale mounted in the position of a photograph to be measured. The scale from end to end was divided into ten equal intervals, which were successively compared with the same interval of the subsidiary scale. There was some difficulty in the measures at the edge of the field, owing to the lens being slightly over-corrected for flatness of field. In the following table are given the differences of each interval from the standard interval after correction for the errors of the scale. The heading gives the reading of the scale as measured from the centre :—

| | $0^d$–$6^d$ | $6^d$–$12^d$ | $12^d$–$18^d$ | $18^d$–$24^d$ | $24^d$–$30^d$ |
|---|---|---|---|---|---|
| From centre to right . . | + ″·077 | + ″·002 | ″·000 | − ″·003 | − ″·063 |
| „ „ left . . | + ·004 | + ·038 | + ·051 | − ·008 | − ·093 |
| „ „ top . . | + ·054 | + ·050 | + ·034 | − ·002 | − ·050 |
| „ „ bottom . . | + ·017 | + ·031 | + ·010 | − ·036 | − ·108 |
| Mean . . | + ·038 | + ·030 | + ·024 | − ·012 | − ·079 |

Applying a correction −″·035 per six divisions, which is equivalent to taking the scale at the centre, the correction for distortion is found to be—

| $0^d$ | $6^d$ | $12^d$ | $18^d$ | $24^d$ | $30^d$ |
|---|---|---|---|---|---|
| ″·000 | +″·002 | −″·002 | −″·014 | −″·061 | −″·175 |

The reading $30^d$ corresponds to an angular distance of the object of 2½° from the centre of the object-glass. The above numbers indicate that the distortion is roughly proportional to the fifth power of the distance from the centre of the field. It is practically insensible up to $18^d$, and increases rapidly after $24^d$, or 240″ on the Astrographic plate.

For the photographs taken with the Thompson Equatorial the microscope is used with the magnification unity, and the field used can only extend to $15^d$ from the centre, within which range the distortion is quite insensible.

The amount of the distortion at different distances from the centre is shown in the diagram by the curve above the horizontal line. The *correction* for distortion, which is negative on the positive side of the centre, is shown by the dotted curve below the line. On the negative side the correction changes sign and is positive, being represented by the full-line curve. Practically the whole effect of the distortion appears in alteration of the "runs" of the micrometer, and the effect on the mean of the measures of a star image is very small, for in measuring the position of an image it is bisected at the centre of the field C, and in effect the distances from the two réseau lines between which it falls, *i.e.* CA and CB, are read. The error of runs is eliminated by combining these measures with weights in inverse proportion to their distances from the centre. Measuring now in one direction, from right to left, the correction for distortion will be positive on one side of the centre and negative (indicated by the dotted curve) on the other. In the diagram the correction to the measure of the réseau line on the left is A M, to the réseau line on the right is zero, and the correction to the mean is C R.

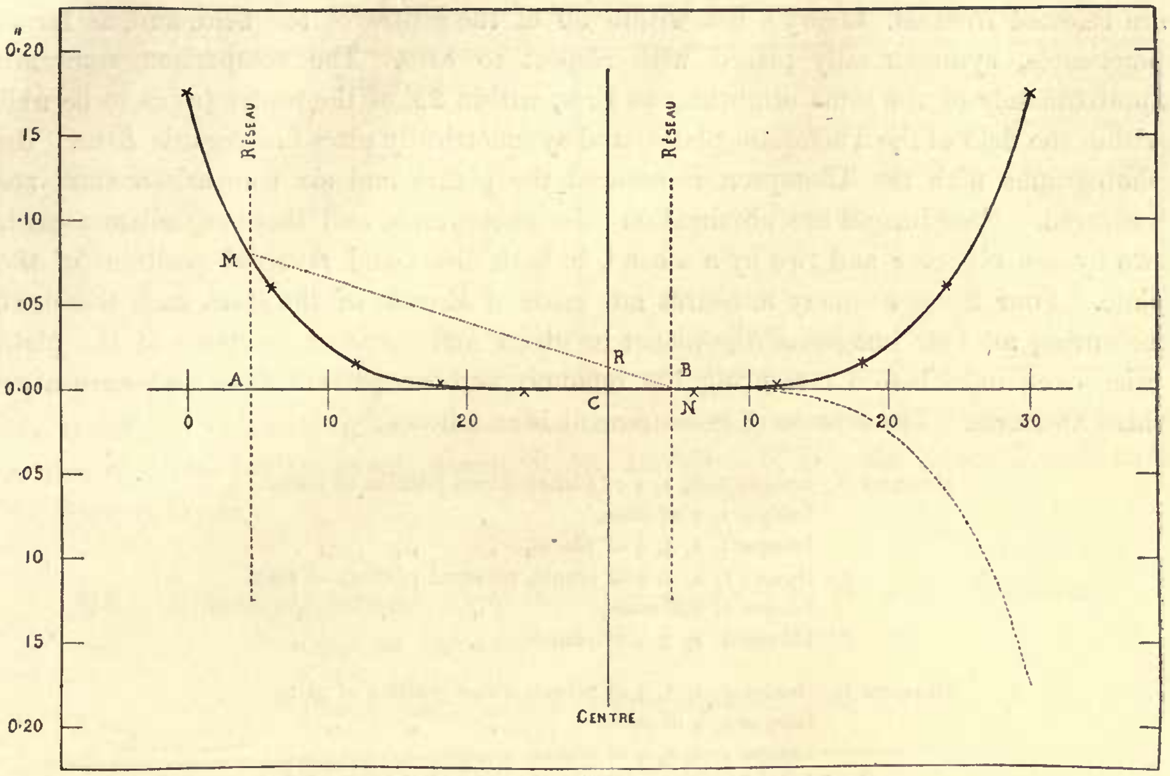


FIG. 2.—Distortion of Microscope Object-glass.

The position in the diagram corresponds to the maximum effect. The same result is shown in the following table:—

*Correction for Distortion.*

| Reading of Scale. | Left. | Right. | Mean. |
|---|---|---|---|
| d | " | " | " |
| 0 | + ·175 | ·000 | ·000 |
| 6 | + ·061 | + ·002 | + ·012 |
| 12 | + ·014 | − ·002 | + ·003 |
| 18 | + ·002 | − ·014 | − ·003 |
| 24 | − ·002 | − ·061 | − ·012 |
| 30 | ·000 | − ·175 | ·000 |

This distortion of the microscope object-glass is quite insignificant, and no correction has been applied.

*Measurement of the Photographs of Eros.*

On each photograph taken with the Astrographic Equatorial measures are made of the planet, ten to twelve reference stars and six comparison stars. The reference stars are selected from M. Loewy's list within 50′ of the centre of the field, and, as far as practicable, symmetrically placed with respect to Eros. The comparison stars are approximately of the same brightness as Eros, within 25′ of the centre (so as to be well within the field of the Thompson plates) and symmetrically placed as regards *Eros*. On photographs with the Thompson Equatorial the planet and six comparison stars are measured. Four images are obtained on each photograph, and these are all measured, two by one observer and two by a second, in both direct and reversed positions of the plate. Four times as many measures are made of Eros as of the stars, each measurer measuring all four images of the planet in direct and reversed positions of the plate twice over, once before measuring the reference and comparison stars and once after these measures. The scheme of measurement is as follows :—

Measurer A. Images 1, 2, 3, 4 of planet, direct position of plate.
Images 1, 2 of stars, ,, ,, ,,
Images 1, 2, 3, 4 of planet, ,, ,, ,,
Images 1, 2, 3, 4 of planet, reversed position of plate.
Images 1, 2 of stars, ,, ,, ,,
Images 1, 2, 3, 4 of planet, ,, ,, ,,

Measurer B. Images 1, 2, 3, 4 of planet, direct position of plate.
Images 3, 4 of stars, ,, ,, ,,
Images 1, 2, 3, 4 of planet, ,, ,, ,,
Images 1, 2, 3, 4 of planet, reversed position of plate.
Images 3, 4 of stars, ,, ,, ,,
Images 1, 2, 3, 4 of planet, ,, ,, ,,

The large number of measures of Eros (thirty-two in all) makes them comparable with the total number of measures of reference and comparison stars. The above system of measurement has proved amply sufficient to obtain the position of Eros with all the accuracy of which the photographs admit.

### *The Accuracy of the Measures.*

From measures made on a réseau and others made on specks of the film of a photograph it appears that the probable error of a pointing on a perfectly defined speck is ±″·020. This result is obtained with the magnification used in the actual measurement of the photographs.

For the determination of the accuracy with which the planet Eros is bisected, comparisons have been made between the two pointings on Eros in the same position of the plate by the same measurer. These pointings were made after an interval of time during which other images were measured. The actual differences between Mr. Davidson's (C.D.) measures on plate 5306 are given as a specimen.

*Plate* 5306. *Measurer* C.D.

| | Difference of 1st and 2nd Measures of Eros. | | | Difference of 1st and 2nd Measures of Eros. | |
|---|---|---|---|---|---|
| | *x* | *y* | | *x* | *y* |
| | ″ | ″ | | ″ | ″ |
| Image 1 measured direct ... | − ·06 | + ·02 | Image 1 measured reversed | + ·01 | − ·22 |
| „ 2 „ „ ... | − ·02 | + ·14 | „ 2 „ „ ... | − ·10 | + ·18 |
| „ 3 „ „ ... | + ·08 | + ·04 | „ 3 „ „ ... | + ·23 | + ·04 |
| „ 4 „ „ ... | + ·02 | + ·02 | „ 4 „ „ ... | + ·22 | + ·01 |
| | | | Mean Discordance | ± ·093 | ± ·084 |

Results of this nature, each depending on eight comparisons, are given below for a number of plates for the three measurers, Mr. Davidson (C.D.), Mr. Edney (D.E.), and Mr. Burkett (W.B.).

*Mean Differences between Two Pointings on Eros by the same Measurer and in the same Position of the Plate.*

Plates taken with Astrographic Equatorial.

| Plate. | C.D. | | D.E. | | W.B. | |
|---|---|---|---|---|---|---|
| | *x* | *y* | *x* | *y* | *x* | *y* |
| | ″ | ″ | ″ | ″ | ″ | ″ |
| 5275 | ±·111 | ±·073 | ±·075 | ±·118 | ... | ... |
| 5276 | ·080 | ·070 | ·133 | ·081 | ... | ... |
| 5278 | ·126 | ·064 | ·124 | ·133 | ... | ... |
| 5280 | ·121 | ·156 | ·131 | ·124 | ... | ... |
| 5283 | ·151 | ·183 | ... | ... | ±·189 | ±·183 |
| 5285 | ·131 | ·073 | ·100 | ·106 | ... | ... |
| 5286 | ·108 | ·132 | ... | ... | ·040 | ·090 |
| 5287 | ·064 | ·068 | ·103 | ·050 | ... | ... |
| 5288 | ... | ... | ·115 | ·080 | ·134 | ·071 |
| 5289 | ·101 | ·149 | ·078 | ·101 | ... | ... |
| 5290 | ·059 | ·150 | ... | ... | ·078 | ·146 |
| 5294 | ... | ... | ·113 | ·131 | ·090 | ·081 |
| 5297 | ·085 | ·184 | ... | ... | ·135 | ·119 |
| 5299 | ... | ... | ·120 | ·083 | ·155 | ·129 |
| 5300 | ·080 | ·173 | ·158 | ·079 | ... | ... |
| 5304 | ... | ... | ·070 | ·120 | ·098 | ·106 |
| 5306 | ·093 | ·084 | ·101 | ·166 | ... | ... |
| 5307 | ... | ... | ·164 | ·158 | ... | ... |
| | ±·101 | ±·120 | ±·113 | ±·109 | ±·115 | ±·116 |
| Mean = ±·110 ±·115 | | | | | | |

### *Mean Differences between Two Pointings on Eros by the same Measurer and in the same Position of the Plate.*

Plates taken with Thompson Equatorial.

| Plate. | C.D. | | D.E. | | W.B. | |
|---|---|---|---|---|---|---|
| | x | y | x | y | x | y |
| 845 | ±″·086 | ±″·068 | ±″·069 | ±″·093 | ″<br>... | ″<br>... |
| 846 | ... | ... | ·101 | ·071 | ±·094 | ±·079 |
| 847 | ... | ... | ·105 | ·053 | ·123 | ·075 |
| 848 | ·069 | ·075 | ·096 | ·073 | ... | ... |
| 849 | ·048 | ·081 | ·081 | ·091 | ... | ... |
| 850 | ·051 | ·084 | ·069 | ·090 | ... | ... |
| 851 | ... | ... | ·079 | ·058 | ·100 | ·104 |
| 852 | ... | ... | ·081 | ·110 | ·038 | ·078 |
| 853 | ·068 | ·065 | ·071 | ·084 | ... | ... |
| 854 | ·140 | ·128 | ·065 | ·118 | ... | ... |
| 855 | ... | ... | ·108 | ·095 | ·065 | ·090 |
| 857 | ... | ... | ·086 | ·078 | ·140 | ·086 |
| 858 | ·064 | ·096 | ·085 | ·055 | ... | ... |
| 859 | ... | ... | ·084 | ·051 | ·054 | ·070 |
| 860 | ·132 | ·097 | ... | ... | ·067 | ·095 |
| 861 | ... | ... | ·103 | ·125 | ·066 | ·068 |
| 863 | ·063 | ·097 | ·070 | ·062 | ... | ... |
| 864 | ... | ... | ·070 | ·054 | ·064 | ·073 |
| 865 | ... | ... | ·073 | ·079 | ·111 | ·111 |
| | ±·080 | ±·088 | ±·083 | ±·080 | ±·084 | ±·084 |
| | | Mean | ±·082 | ±·083 | | |

The above tables show that the accidental error of measurement is the same for the three measurers, and that it is considerably smaller for the Thompson than for the Astrographic photographs. The probable accidental error of a single pointing on Eros is

$$\pm''\cdot112 \times \frac{1}{\sqrt{2}} \times \cdot85 = \pm''\cdot067 \text{ for the Astrographic photographs}$$

and

$$\pm''\cdot082 \times \frac{1}{\sqrt{2}} \times \cdot85 = \pm''\cdot049 \text{ for the Thompson photographs.}$$

The comparison of the results shows that these accidental errors of measurement are only a trifling part of the final error. No attempt has been made to analyse the sources of error in detail, though it seems clear that a considerable error is inherent in the star images.

## IV. REDUCTION OF THE MEASURES.

The measured positions of the images on the réseau were expressed in arc, assuming 1 réseau interval = 300″ for the Astrographic plates and 1 réseau interval = 150″ for the Thompson plates. Corrections for (1) the division errors of the eyepiece scale of the microscope (pp. xvi. and xvii.), (2) the *provisional* division errors of the réseau (see below, Section V.), and (3) the square term of the differential refraction, were applied, and the results thus corrected are printed as measured co-ordinates in Tables II. and III. With the réseau direct the lines 1, 2, 3 . . . . 27 correspond to 300″, 600″, 900″ . . . . 8100″, and with the réseau reversed to 8100″, 7800″, 7500″ . . . . 300″, the plate centre in either case being at $x = 4200''$ $y = 4200''$.

*Differential Refraction.*—It is well known that the principal part of the correction for differential aberration and refraction is a linear function of the co-ordinates, and accordingly merely leads to an alteration of the plate-constants. But to the order of accuracy here required the square term of the differential refraction is not negligible. This amounts to a displacement towards the zenith of the outer parts of the plate as compared with the central parts, arising from the fact that the mean of the tangents of two angles (zenith-distances) is greater than the tangent of the mean.

The formulæ for the effects of differential refraction are

$$\Delta x = -\beta\{(1+X^2)x + XYy\} + \beta\{X(2+X^2)x^2 + Y(1+2X^2)xy + X(1+Y^2)y^2\}$$
$$\Delta y = -\beta\{(XYx + (1+Y^2)y\} + \beta\{Y(1+X^2)x^2 + X(1+2Y^2)xy + Y(2+Y^2)y^2\}$$

where X, Y are standard co-ordinates of the zenith.

Considering only the second order terms, and expressing $x$ and $y$ in units of 1000″, we have

$$\Delta x = {}''{\cdot}00136\{ax^2 + 2hxy + by^2\}$$

where

$$a = X(2+X^2)$$
$$2h = Y(1+2X^2)$$
$$b = X(1+Y^2)$$

and

$$''{\cdot}00136 = \text{constant of refraction} \times (\text{circular measure of } 1000'')^2.$$

A graphical method of determining these corrections was employed, diagrams being constructed for each plate, from which the corrections to the individual stars could be at once read off. Since the errors $\Delta x$ were required to the nearest hundredth of a second, curves were drawn on a plan of the plate for which $\Delta x$ = ″·005, ″·015, ″·025, etc. These curves divide the plate into regions for which corrections ″·00, ″·01,

″·02, etc., are applicable. They are co-axal and similar conics, and in almost all cases of practical importance are ellipses.

The inclination $\theta$ of the axes of the ellipses to the axes of the réseau is given by

$$\tan 2\theta = \frac{2h}{a-b},$$

the equation referred to the principal axes is

$$\Delta x = ''\!\cdot\!00136\{a'x'^2 + b'y'^2\},$$

where

$$2a' = \overline{a+b} + \overline{a-b}\cos 2\theta + 2h\sin 2\theta$$

$$2b' = \overline{a+b} - \overline{a-b}\cos 2\theta - 2h\sin 2\theta.$$

Eight points on each ellipse are readily found, viz. the extremities of the principal axes and the intercepts on the middle lines of the réseau. The actual determination of these points is greatly facilitated by the use of a table giving the solution of

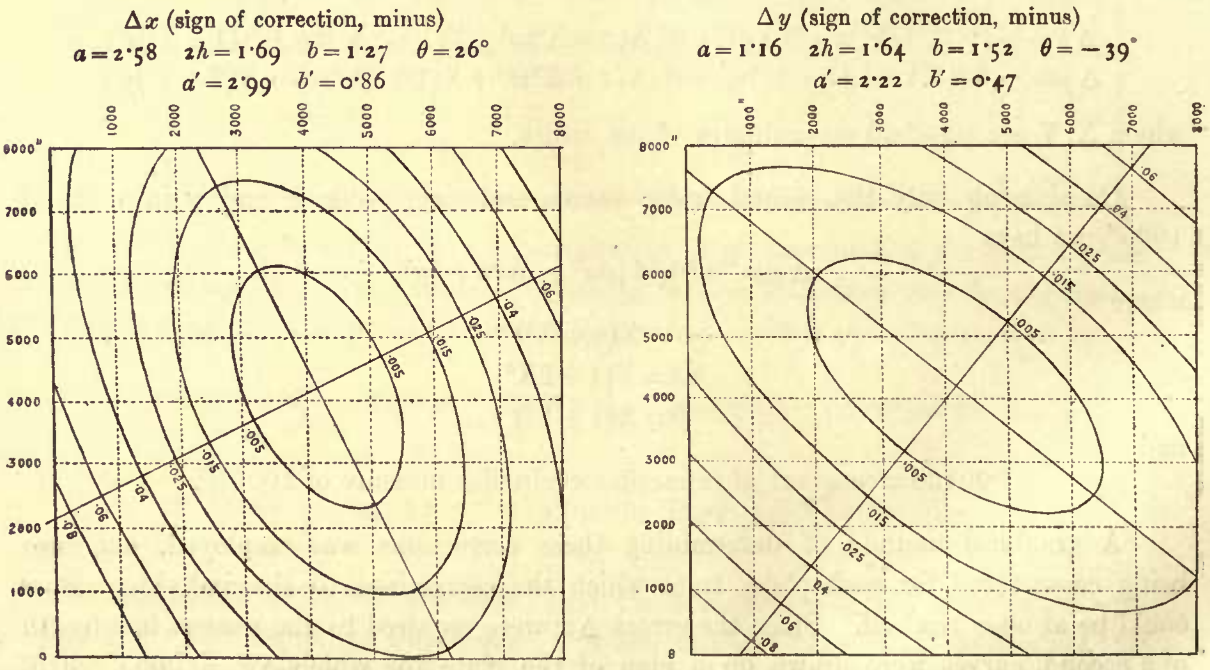
$$\Delta x = ''\!\cdot\!00136\, ax^2$$

for the argument $a$ and for the standard values (″·005, ″·015, etc.) of $\Delta x$; the same table is available for determining all the eight points on each ellipse.

A similar figure was used to determine $\Delta y$; the following is an example of the method :—

*Plate* 5283. 1900 *December* 7.

Hour-Angle West $5^h\ 12^m\!\cdot\!3$, Declination North 48° 17′.


$\Delta x$ (sign of correction, minus)
$a = 2\cdot58 \quad 2h = 1\cdot69 \quad b = 1\cdot27 \quad \theta = 26°$
$a' = 2\cdot99 \quad b' = 0\cdot86$

$\Delta y$ (sign of correction, minus)
$a = 1\cdot16 \quad 2h = 1\cdot64 \quad b = 1\cdot52 \quad \theta = -39°$
$a' = 2\cdot22 \quad b' = 0\cdot47$

FIG. 3—Method of determining the corrections for the square term of the differential refraction.

## *Plate-Constants. Astrographic Plates.*

For the purpose of determining plate-constants, from ten to twelve reference stars and six comparison stars were measured on each of the Astrographic Plates. The réseau covers an area of the plate 130′ square, but it was decided not to make use of stars outside a circle of 55′ radius, measured from the centre of the field, for determining plate-constants.

The *reference stars* (*étoiles de repère*) were taken from the list given in Circulars Nos. 4 and 5 of the Astrographic Conference. In general no selection was possible, as there were not more than twelve suitable reference stars (from the list) on the plate.

At the time when the work of reduction at Greenwich began, neither M. Loewy's adopted positions nor Mr. Tucker's normal catalogue of reference stars had been published. Accordingly, the work was started with a series of places adopted independently of other observatories; however, at a later stage in the reductions, corrections were introduced to reduce to M. Loewy's system (Circular No. 11, p. 402). The positions of Eros (Table X.) and the photographically corrected places of the reference and comparison stars (Tables VII. and VIII.) depend on M. Loewy's adopted places, exactly as though his places had been used from the beginning.

The initially adopted places of the reference stars were found by taking means of the meridian places determined at the various co-operating observatories, and published in the Circulars of the Astrographic Conference, the following system of weights being used:—

| | |
|---|---|
| 1 observation . . . . | weight 1 |
| 2 and 3 observations . . . . | ,, 2 |
| 4, 5 and 6 ,, . . . . . | ,, 3 |
| above 6 ,, . . . . . | ,, 4 |

These places being only used provisionally, the means were taken to $0^s{\cdot}01$ in R.A. and $0''{\cdot}1$ in Decl. They are given in Table VII.

The plate-constants were computed in the way that has been used at Greenwich for the Astrographic Catalogue.

The name "Standard Co-ordinates" is given to the co-ordinates which the star has on an ideal plate fulfilling the conditions:—

(1) The centre of the plate agrees with the assumed centre.

(2) The plate is oriented with the axis of $y$ along the meridian ($y$ increasing with the Declination) for the mean equinox, 1900·0.

(3) Refraction and aberration are non-existent.

If $\xi$, $\eta$ are Standard Co-ordinates, and $x$, $y$ are Measured Co-ordinates, setting as usual—

$$\xi = (1+a)x + by + c$$
$$\eta = dx + (1+e)y + f,$$

$c$, $f$ give the position of the actual plate-centre referred to the assumed plate-centre.

$a$, $e$ give the difference of the actual scale from the ideal scale (1 mean réseau interval = 300″), assumed when converting the measured co-ordinates into arc, and depend partly on the focal length of the telescope, partly on the mean interval of the réseau, and partly on the differential refraction and aberration.

$b$, $d$ give the error of orientation of the plate.

The Standard Co-ordinates were calculated from the adopted meridian places of the reference stars by the formulæ—

$$\xi = \tan(\alpha - \mathrm{A}) \,.\, \sec(\theta - \mathrm{D}) \,.\, \cos\theta$$
$$\eta = \delta - \mathrm{D} + \tan^2\frac{\alpha - \mathrm{A}}{2} \,.\, \sin 2\,\delta + \frac{\eta^3}{3}$$

where $\alpha$, $\delta$ are the right ascension and declination of the star; A, D the right ascension and declination of the centre of the plate; and $\theta = (\delta + \tan^2\frac{\alpha - \mathrm{A}}{2} \,.\, \sin 2\,\delta)$.

The conversion of Standard Co-ordinates into Right Ascension and Declination was effected by means of the formulæ and tables given by M. Loewy in Circular 10 of the Astrographic Conference.

The Standard Co-ordinates of the reference stars being compared with the measured co-ordinates, each star provides two equations for the determination of the six constants $a$, $b$, $c$, $d$, $e$, $f$. Following a practice pretty generally adopted, these equations were *not* solved by least squares. The accuracy of determinations of the positions of stars near the edges of the plate is much inferior to the accuracy of those nearer the centre, and the unmodified method of least squares would give too great weight to the outer stars in forming equations for the scale-constants. It has already been mentioned that it was found desirable to reject stars more than 55′ from the centre; for the same reason, a solution of the equations in which each star has a weight directly proportional to its distance from the centre could not be satisfactory. In the method actually adopted the scale-constants were determined by grouping the stars on one side of the central line and comparing with the group of stars on the other side of the line, giving equal weight to each star.

The scale-constants $a$ and $e$ may each be analysed into two parts. The part depending on the focal length of the telescope and the interval between the réseau-lines is practically constant. The part depending on the differential refraction and aberration can be calculated theoretically. The formulæ for these are given in the Greenwich Astrographic Catalogue, vol. I. pp. xliv and xlv. Under the columns headed $a'$ and $e'$ in Table IV. are the values obtained for the former part for each plate; i.e. $a'$ and $e'$ are the scale-constants derived from the solution of the equations for each plate, but with the theoretical effects of refraction and aberration removed. The mean values for the whole opposition are $a' = -{\cdot}00102$ $e' = -{\cdot}00095$, and the mean discordance of each single determination from the mean is $\pm{\cdot}00005$. The question arises, to what extent are these discordances real, and to what extent are they due to errors in the places of the reference stars or errors of measurement? It is considered that the latter is the main cause of these differences (see Dyson, "Note on Plate-Constants," *Monthly Notices, R.A.S.*, vol. lxiii. p. 134), and accordingly the mean values $-{\cdot}00102$ and $-{\cdot}00095$ were adopted. The theoretical terms due to aberration and refraction were then added to these to give the adopted scale-constants $a$ and $e$ which are entered in Table IV.

In like manner, the values of $b$ and $d$ adopted are not exactly the values derived directly from the equations. The latter, after correction to clear from refraction and aberration, are denoted by $b'$ and $d'$. The sum $b'+d'$ should be equal to zero; actually the mean value of the sum from all the plates is found to be $+{\cdot}000066$. This may depend on the axes of $x$ and $y$ on the réseau not being at right angles to one another or on other small errors. The value of $b'-d'$ depends on the orientation, and varies from plate to plate; combining the value of $b'-d'$ found for the individual plate with the mean adopted value of $b'+d'$, and applying the theoretical corrections for refraction and aberration, the finally adopted orientation-constants $b$ and $d$ are arrived at.

The corrections to the origin $c'$ and $f'$ are derived from the whole of the equations after substituting the values of $a$, $b$, $d$, $e$ adopted; $c$ and $f$ are the corresponding corrections, using improved places of the reference stars (see below).

In the seventh and eighth columns of Table II. are given the residuals (calculated—observed) of the reference stars; these residuals are the quantities $\xi - ax - by - c'$, $\eta - dx - ey - f'$, and represent the difference between the adopted (provisional) place of the star and the place as computed from the plate-constants, (viz. final scale-constants but provisional plate-centre).

In order to obtain improved places of the stars these residuals have been ledgered in Table VI. In forming the mean residual, the means for each night were taken separately and then combined with the following system of weights :—

| | | | |
|---|---|---|---|
| Result from | 1 photograph | a weight | 2 |
| ,, | 2 photographs | ,, | 3 |
| ,, | 3 ,, | ,, | 4 |
| ,, | 4 or 5 ,, | ,, | 5 |
| ,, | 6 or 7 ,, | ,, | 6 |

The error of a star's position derived from any photograph depends on (1) $\epsilon_0$ the systematic error of the plate-centre due to erroneous star-places, which is constant throughout any one night, (2) $\epsilon_1$ the accidental error of measurement of the star's image. The above system of weights is founded on the assumption $\epsilon_0^2 = 0{\cdot}3\ \epsilon_1^2$.*

At this point the correction to reduce to M. Loewy's adopted star-places was introduced. Forming the differences, Loewy – Greenwich Provisional, for each reference star on any plate, and taking the mean, corrections to the plate-centre to reduce each plate to Loewy's system were found. For each star these corrections were ledgered side by side with the residuals and the mean taken with the same weights as were used for the corresponding residuals. Only the final correction is given in Table VI.

M. Loewy's star-places have been taken from the data published by him in Circular No. 11, p. 402. He has since published in Circular No. 12 of the Astrographic Conference a catalogue, which differs slightly, especially in the latter part.

The finally deduced places are collected in Table VII., which also gives M. Loewy's place and the place provisionally adopted at Greenwich. It was now necessary to correct the plate-constants $c'$ and $f'$ by using the improved places. The resulting values $c$ and $f$, and the corrections to $c'$ and $f'$, are given in Table IV.

On each plate, in addition to the Reference Stars, another series of stars called *Comparison Stars* was measured. These were six stars of about the same magnitude as Eros, arranged symmetrically about it and within 25′ of the centre of the plate.

---

* A comparison of the adopted meridian places of reference stars with places derived from Paris photographs showed a mean discordance of ±″·17. Allowing 12 reference stars to the plate, we may estimate $\epsilon_0$ to be ±″·05. But the mean discordance of a single measured place from the mean measured place (for a star measured on a large number of plates on several nights) is ±″·10, so that—

$$\sqrt{\epsilon_0^2+\epsilon_1^2} = \pm''{\cdot}10$$

whence

$$\epsilon_1 = \pm''{\cdot}09$$
$$\epsilon_0 = {\cdot}56\ \epsilon_1$$
$$\epsilon_0^2 = 0{\cdot}3\ \epsilon_1^2$$

It was also necessary, in order that a good determination of the place of the star might be made possible, that the star should be measurable on plates taken on two or more different nights. These stars served the double purpose of points of reference for the Thompson photographs (for which, owing to the smaller field, the reference stars could not be used), and of an additional series of points of reference for the Astrographic plates.

The measures of these stars are given on the right-hand side of each page in Table II. The measured positions converted into R.A. and Dec. by means of the finally adopted plate-constants are ledgered in Table VIII., simple means are there taken, and the resulting places summarised in Table IX. In the last two columns of Table II. are tabulated the residuals of the measures of Comparison Stars on the respective plates.

For the determination of the places of the comparison stars, measures of their images were made on all plates on which they appear, and not only on those for which they were used as comparison stars. Where the star is not used as a comparison star for the plate to which the measures refer, a dagger (†) is affixed to the residuals.

The mean of the residuals of the six comparison stars on any one plate, with the sign changed, is the correction required to refer Eros (or any star) to the comparison stars instead of to the reference stars.

*Thompson Plates.*—The reduction of the measures followed the same lines as for the Astrographic, but was more straightforward. The comparison stars served as points of reference, their adopted places being found from the Astrographic measures, as already explained. No rectification of star-places or reduction to Loewy was required, that having been already accomplished in the determination of these places from the Astrographic Plates. The equations for the plate constants were, however, in this case, solved by least squares.

## V. DIVISION ERRORS OF THE RÉSEAU.

The very high accuracy aimed at in the measurement of the positions of Eros for the determination of solar parallax renders the determination of the division errors of the réseau a matter of great importance. All the measurements and corrections have been carried to ″·01, which gives some idea of the order of accuracy desired; in particular, a *systematic* difference of ″·01 between the measured positions of Eros deduced from evening and morning photographs would introduce a systematic error of ″·003 (or more) into the finally deduced value of the parallax—a quantity nearly equal to the accidental error of the final result.

In the case of the Astrographic photographs, the fact that the réseau was reversed (see p. x) when the telescope passed from east to west of the pier will introduce such a systematic difference unless the mean division error for that part of the réseau where Eros generally falls has been determined correctly to ″·005.

Besides the principal division errors due to the unequal spacing of the lines of the réseau, there are small errors due to imperfect straightness of the réseau lines which cannot be wholly neglected for our purpose. To determine the division error at a sufficient number of points along every réseau line to ″·01 would be far too laborious a task; and, moreover, there is the further difficulty that the prints are not exact copies of the silver-on-glass réseau, but differ from it, partly accidentally and partly systematically.

This difficulty has been met by applying, in the first place, approximate division corrections to all measurements (both of Eros and of the stars), and afterwards applying supplementary corrections to Eros to refer it more accurately to the mean of the reference or comparison stars.

The investigation is accordingly divided into two parts:—

## (I.) PROVISIONAL DIVISION ERRORS.

The micrometer used throughout for the determination of division errors was described in *Monthly Notices*, vol. liii. p. 326, but has been somewhat modified since then. A photograph of the instrument, as it now is, is shown in the lower figure in the frontispiece. Two microscopes, whose distance apart can be adjusted, are connected by a bar which can move longitudinally in a slide and can be firmly clamped in any desired position. The réseau and scale to be compared are mounted so as to be viewed one by each microscope. The frame which carries the réseau can move in a slide perpendicularly to the line joining the microscopes. A fixed close pair of parallel wires in the right-hand microscope is set on the required division of the scale by moving the bar which carries the two microscopes by means of a slow-motion screw. A movable wire in the left-hand microscope is then set on the required réseau-line by turning a micrometer-head. In this way the difference between the interval between two réseau-lines and the interval between two scale divisions can be determined, the constancy of the distance between the axes of the two microscopes being used, as it were, to project the scale divisions on the réseau. In order that the same reading of the micrometer may always correspond to the same distance between the two points viewed, it is necessary that either the axes of the microscopes should be parallel or that each slide should move accurately in its plane

Probably an appreciable error arises from the non-fulfilment of these conditions when the outer parts of the réseau are viewed; the error can be detected and eliminated by turning the réseau through 180° and remeasuring.

The réseau-lines 5$^{\text{mm}}$ apart are numbered from 1 to 27 in both co-ordinates, so that the centre of the réseau is at the intersection of the lines numbered 14. Omitting the extreme lines 1 and 27, the division errors of lines 8, 14, and 20 referred to 2 and 26 were first determined. The measurements were made at the central parts of the lines, and consisted in comparing the intervals 2–8, 8–14, 14–20, 20–26 with the same interval on a glass scale. Four complete sets of measures were made, each set being the mean of measures made with the réseau direct and reversed. These gave for the division errors referred to 2 and 26 as standard:—

### TABLE 1.

*x Co-ordinate.*

| | 2 | 8 | 14 | 20 | 26 |
|---|---|---|---|---|---|
| | ″·00 | − ″·20 | − ″·20 | − ″·18 | ″·00 |
| | ·00 | − ·21 | − ·19 | − ·14 | ·00 |
| | ·00 | − ·21 | − ·25 | − ·20 | ·00 |
| | ·00 | − ·21 | − ·22 | − ·18 | ·00 |
| Mean | ·00 | − ·21 | − ·21 | − ·18 | ·00 |

*y Co-ordinate.*

| | 2 | 8 | 14 | 20 | 26 |
|---|---|---|---|---|---|
| | ″·00 | + ″·05 | + ″·11 | + ″·11 | ″·00 |
| | ·00 | + ·08 | + ·10 | + ·13 | ·00 |
| | ·00 | + ·08 | + ·11 | + ·11 | ·00 |
| | ·00 | + ·06 | + ·10 | + ·11 | ·00 |
| Mean | ·00 | + ·07 | + ·11 | + ·12 | ·00 |

The division errors given are expressed in arc for the scale of the Astrographic plates.

Each of the single intervals from 1 to 27 was now compared with each of six consecutive intervals of the glass scale by a symmetrical method. If the six lengths of the scale be called $a, b, c, d, e, f$, the intervals 1–2, 2–3, 3–4, 4–5, 5–6, 6–7, 7–8 were compared with them as follows. In the first setting 1–2 was compared with $f$; in the second, 1–2 with $e$, and 2–3 with $f$; in the third, 1–2 with $d$, 2–3 with $e$, and 3–4 with $f$; and so on, the relative positions of the scale and réseau being changed one division at each setting.

In this way cumulative error was, as far as possible, avoided, and a comparison effected between each of the intervals 1–2, 2–3, 3–4, 4–5, 5–6, 6–7, 7–8, and the mean $\frac{1}{6}(a+b+c+d+e+f)$ of six intervals of the scale. Using the values of the terminal division errors at 2 and 8, those of the intermediate points and one exterior point are found. A similar method was used to subdivide 8–14, 14–20, and 20–27.

The division errors found in this way are given in the following table*, and were applied to all measures, whether of Eros or of the reference and comparison stars. The measures printed in Tables II. and III. are corrected for *these* division errors, but not for the supplementary division errors about to be described.

### TABLE 2.

*Provisionally Adopted Errors of Réseau.*

| Line | X | Y | Line | X | Y |
|---|---|---|---|---|---|
| 1 | −″·00 | −″·19 | 15 | −″·18 | −″·03 |
| 2 | ·00 | ·11 | 16 | ·18 | ·04 |
| 3 | ·06 | ·11 | 17 | ·18 | ·05 |
| 4 | ·01 | ·09 | 18 | ·17 | ·01 |
| 5 | ·08 | ·07 | 19 | ·16 | ·00 |
| 6 | ·13 | ·03 | 20 | ·17 | ·01 |
| 7 | ·17 | ·06 | 21 | ·16 | ·00 |
| 8 | ·19 | ·06 | 22 | ·13 | ·01 |
| 9 | ·24 | ·02 | 23 | ·12 | ·05 |
| 10 | ·21 | ·02 | 24 | ·10 | ·05 |
| 11 | ·18 | ·00 | 25 | − ·09 | ·08 |
| 12 | ·21 | ·02 | 26 | ·00 | ·11 |
| 13 | ·17 | ·04 | 27 | + ·14 | − ·12 |
| 14 | − ·19 | − ·03 | | | |

## (II.) SUPPLEMENTARY DIVISION ERRORS.

It has already been explained (p. x) that in the case of the Astrographic telescope the réseau is reversed with the telescope in passing from east to west of the pier.

---

* The errors at 2, 8, 14, 20 and 26 are not derived directly from Table 1, but are modified by the inclusion of measures made at the intersections with 2 and 26 in the other co-ordinate as well as those made at the intersections with 14 (see Table 9).

In consequence of this reversal the division errors of the central line 14 and the adjacent line 13 or 15 between which Eros is usually placed affect the R.A. of Eros with opposite signs on photographs taken with the telescope east and west of the pier respectively, and thus directly enter into the value of the parallax deduced from morning and evening photographs with the telescope east and west respectively. It was therefore necessary to determine the division errors of the $x$ lines 13, 14, and 15 with a degree of accuracy far beyond that of the other lines.

It must be remembered that division errors are *relative*; and it is necessary to specify to what these division errors are referred. What was required in this supplementary investigation was the error of that part of the réseau where Eros falls, referred to the mean of the lines in that portion of the réseau on which those stars fall from which the co-ordinates of the plate-centre were deduced. In Table X. three series of places of Eros are given, viz. (1) Astrographic photographs using *reference stars*; (2) Astrographic photographs using *comparison stars*; (3) Thompson photographs using *comparison stars*. In series (2) the comparison stars may be considered to be in the mean fairly uniformly distributed ever the square between lines 9 and 19 in each co-ordinate, while in the other two series the stars were mainly distributed over the square between lines 4 and 24. Different corrections must be applied to Eros in the two cases.

There were three steps in the determination of these supplementary division errors

(1) A more accurate determination of the errors of lines 13, 14, 15 on the silver réseau.

(2) Measurement of the systematic differences between prints of the réseau and the réseau itself.

(3) Examination of the straightness of the réseau lines.

This discussion is limited to division errors in the $x$ co-ordinate,—*i.e.* to those applicable to Right Ascensions. No determination of division errors with special reference to the central lines was needed for the Declinations. The parallax in Declination being of the same sign on both sides of the meridian, comparisons are made between plates taken at a large hour-angle E or W and those near the meridian, not, as in the case of the right ascensions, between plates E and plates W. Accordingly, if the same proportion of low plates are taken with the telescope E and W (réseau direct and reversed) as of meridian plates, the value of the division error of the central lines of the réseau does not affect systematically the deduced parallax.

### (1) *Supplementary Division Errors of the Central Lines on the Silver Réseau.*

To find the division error of line 14 referred to the mean of the lines from 4 to 24, the intervals between line 14 and each symmetrical pair of lines from 4 to 24 were compared by means of a glass scale.

Thus the comparison between the intervals 4–14 and 14–24 gave the division error of 14 referred to the mean of 4 and 24. Referring 14 in succession to the pairs of lines 4, 24; 5, 23; 6, 22 . . . . 13, 15, and applying the provisional division errors, ten independent determinations of the residual division error of line 14 referred to a pair of lines were obtained. Similarly, line 13 was referred to each pair of lines 3, 23; 4, 24 . . . . 12, 14; and line 15 to each pair 5, 25; 6, 24 . . . . 14, 16. Since, in this method, each line is necessarily referred to pairs of lines symmetrically situated about itself, lines 13 and 15 could not be referred exactly to the same lines (4 to 24) as line 14, but it is clear that the accidental residual division error arising from the substitution of line 3 for line 24 and line 25 for line 4, in the two cases respectively, is negligible in the means of 20 lines.

The investigation was carried out at $y = 13{\cdot}5$ and $y = 14{\cdot}5$ independently. The provisional division errors were determined at $y = 14{\cdot}0$. The accompanying table gives the result:—

TABLE 3.

*Supplementary Division Errors of Lines* 13, 14, 15.

| | $x = 13$. | | | $x = 14$. | | | $x = 15$. | | | $x = 15$ (Extra determination). | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Referred to Lines | Errors | | Referred to Lines | Errors | | Referred to Lines | Errors | | Referred to Lines | Errors | |
| | | $y = 13{\cdot}5$ | $y = 14{\cdot}5$ | | $y = 13{\cdot}5$ | $y = 14{\cdot}5$ | | $y = 13{\cdot}5$ | $y = 14{\cdot}5$ | | $y = 13{\cdot}5$ | $y = 14{\cdot}5$ |
| | 3, 23 | +″·003 | −″·042 | 4, 24 | +″·087 | +″·029 | 5, 25 | +″·029 | +″·032 | 5, 25 | −″·004 | +″·013 |
| | 4, 22 | +·026 | ·000 | 5, 23 | +·063 | +·004 | 6, 24 | +·016 | +·031 | 6, 24 | −·021 | +·012 |
| | 5, 21 | −·004 | +·018 | 6, 22 | +·025 | +·046 | 7, 23 | −·008 | +·002 | 7, 23 | −·012 | −·009 |
| | 6, 20 | −·015 | −·014 | 7, 21 | +·004 | +·001 | 8, 22 | −·031 | +·015 | 8, 22 | +·002 | +·018 |
| | 7, 19 | +·021 | +·028 | 8, 20 | −·011 | −·034 | 9, 21 | −·048 | +·008 | 9, 21 | −·040 | −·018 |
| | 8, 18 | −·027 | −·045 | 9, 19 | +·004 | −·001 | 10, 20 | −·047 | +·014 | 10, 20 | −·041 | +·029 |
| | 9, 17 | −·009 | −·035 | 10, 18 | +·006 | +·016 | 11, 19 | −·029 | +·005 | 11, 19 | −·024 | +·008 |
| | 10, 16 | −·020 | +·010 | 11, 17 | −·046 | −·029 | 12, 18 | −·042 | −·005 | 12, 18 | −·024 | −·045 |
| | 11, 15 | −·024 | −·018 | 12, 16 | −·011 | −·005 | 13, 17 | −·031 | +·044 | 13, 17 | −·053 | +·015 |
| | 12, 14 | −·033 | −·027 | 13, 15 | +·016 | −·001 | 14, 16 | −·025 | +·003 | 14, 16 | −·007 | +·011 |
| Means | 3 to 23 | −·008 | −·013 | 4 to 24 | +·014 | +·003 | 5 to 25 | −·022 | +·015 | 5 to 25 | −·022 | +·003 |
| Means | 8 to 18 | −·023 | −·023 | 9 to 19 | −·006 | −·004 | 10 to 20 | −·035 | +·012 | 10 to 20 | −·030 | +·004 |

For the sake of showing the accuracy attainable, a second determination of the errors of line 15 made after an interval of two months is included in the tables for comparison. The agreement is very satisfactory.

The two sets of means given at the foot of the table are the additional division errors applicable to Eros when referred to reference and comparison stars respectively on Astrographic photographs.

It will be noticed that line 15 has a sensible bend (″·04) in passing from $y = 13\frac{1}{2}$ to $14\frac{1}{2}$, whereas lines 13 and 14 are sensibly straight.

Each quantity in Table 3 is the mean of measures made independently with the réseau direct and reversed.

Table 4 shows the differences between the determinations made with the réseau direct and reversed respectively. The table is given to show the magnitude of the instrumental error, which (it is hoped) is eliminated in taking the mean of the measures.

## TABLE 4.

*Instrumental Errors in the determination of Supplementary Division Errors.*

Réseau reversed—Réseau direct.

| $x=13.$ | | | $x=14.$ | | | $x=15.$ | | | $x=15$ (Extra determination). | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Referred to Lines | $y=13{\cdot}5$ | $y=14{\cdot}5$ | Referred to Lines | $y=13{\cdot}5$ | $y=14{\cdot}5$ | Referred to Lines | $y=13{\cdot}5$ | $y=14{\cdot}5$ | Referred to Lines | $y=13{\cdot}5$ | $y=14{\cdot}5$ |
| 3, 23 | +″·138 | +″·088 | 4, 24 | +″·094 | +″·100 | 5, 25 | +″·096 | +″·090 | 5, 25 | +″·082 | +″·150 |
| 4, 22 | +·064 | +·044 | 5, 23 | +·110 | +·088 | 6, 24 | −·038 | +·088 | 6, 24 | +·100 | +·173 |
| 5, 21 | +·068 | +·032 | 6, 22 | +·058 | +·024 | 7, 23 | −·006 | +·066 | 7, 23 | +·082 | +·077 |
| 6, 20 | +·026 | +·036 | 7, 21 | +·030 | +·012 | 8, 22 | −·026 | +·046 | 8, 22 | +·096 | +·065 |
| 7, 19 | −·008 | −·018 | 8, 20 | +·002 | +·046 | 9, 21 | +·020 | +·020 | 9, 21 | +·048 | +·059 |
| 8, 18 | −·014 | −·034 | 9, 19 | +·036 | −·006 | 10, 20 | −·074 | +·032 | 10, 20 | −·022 | +·058 |
| 9, 17 | −·002 | −·062 | 10, 18 | −·024 | ·000 | 11, 19 | −·034 | +·030 | 11, 19 | −·028 | +·015 |
| 10, 16 | −·022 | −·050 | 11, 17 | −·004 | +·014 | 12, 18 | −·044 | +·042 | 12, 18 | +·017 | +·036 |
| 11, 15 | +·016 | −·048 | 12, 16 | +·052 | +·020 | 13, 17 | −·020 | +·014 | 13, 17 | ·000 | −·020 |
| 12, 14 | +·038 | −·022 | 13, 15 | +·022 | +·012 | 14, 16 | +·024 | +·044 | 14, 16 | +·020 | +·021 |

*Lines* 12 *and* 16.—The scale of the Thompson photographs being double that of the Astrographic, the range of the image of Eros on the plate was naturally greater. Supplementary division errors for lines 12 and 16 were therefore determined.

The intervals 12–13, 13–14, 14–15, 15–16 were compared. The previous investigation had determined accurately the differences between the intervals 13–14 and 14–15 and the mean réseau interval; thus the intervals 12–13 and 15–16 were indirectly compared with the mean réseau interval, and the errors of 13 and 15 being known, those of 12 and 16 were found.

### *Supplementary Division Errors.*

(Referred to the mean of lines 4 to 24.)

| $x =$ | 12 | 13 | 14 | 15 | 16 |
|---|---|---|---|---|---|
| At $y = 13{\cdot}5$ . . . | +″·015 | −″·008 | +″·014 | −″·022 | −″·010 |
| $14{\cdot}5$ . . . | +·042 | −·013 | +·003 | +·015 | +·003 |

All these errors are halved for the Thompson photographs.

### (2) *Comparison between the Réseau and the Photographs.*

A preliminary investigation having shown that there were sensible and systematic differences between the prints of the réseau and the réseau itself, fifteen plates were selected so as to be well representative of the different batches of Eros plates. These were one by one compared with the silver réseau, the corresponding lines on plate and réseau being compared at $y = 13{\cdot}5$ and at $y = 14{\cdot}5$. All the $x$ lines from 3 to 25 were measured on each plate, and the results are given in Tables 5 and 6. The errors tabulated are referred to the mean of lines 9 to 19 as zero. They are differences between the prints and the silver réseau, and consequently are additional to the errors of the réseau itself. A linear term (corresponding to a difference of scale between the plate and réseau) has been removed from the results for each plate. This is necessary if the plate-constants $a$ and $e$ found with the originally adopted errors are not to be modified; moreover, it allows the remaining differences between the plates which are not differences of scale to be more clearly exhibited.

This correction for scale is given in the last column of the tables, for ten réseau intervals, as applied to line 4, and with reversed sign to line 24, and proportionately to the other lines, and has been applied in forming the results given. It was determined by comparing the mean of lines 3 to 13 with the mean of lines 15 to 25, giving equal weight to each line to correspond with the system of weighting adopted in forming the plate-constants.

The mean results are shown graphically in fig. 4.

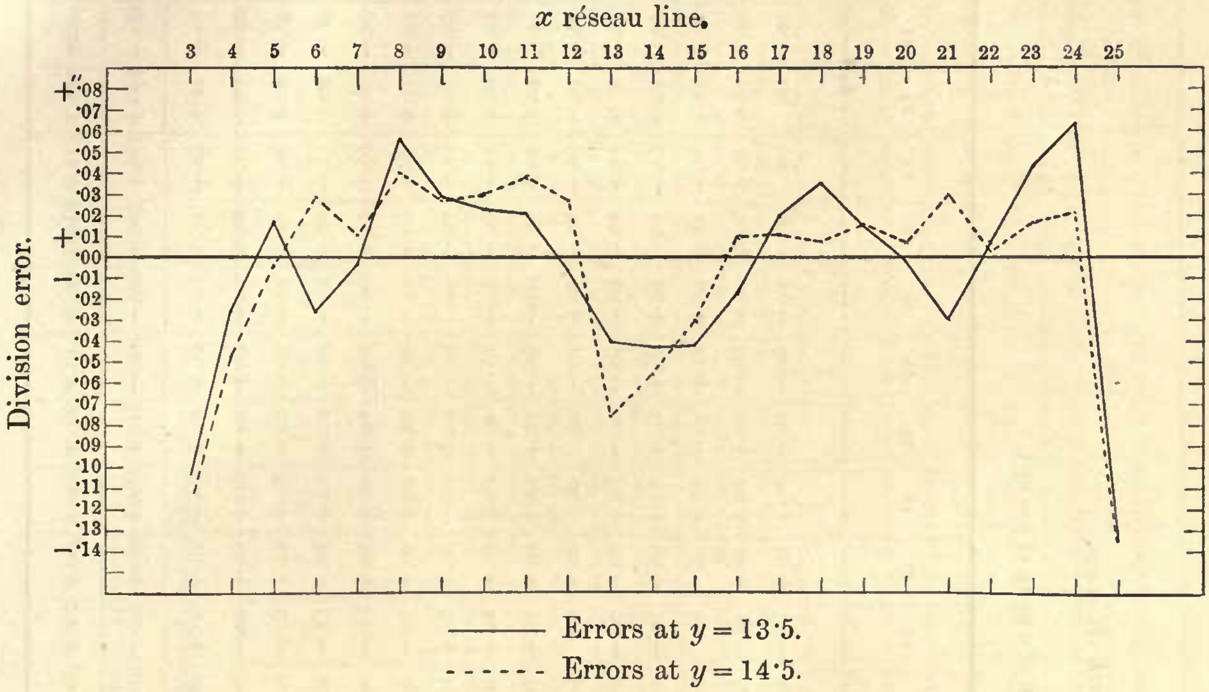


FIG. 4.—Comparison of Photographs with Réseau.

Near the centre the prints agree very closely among themselves. The mean discordance of the measured position of a line *on a single print* from the mean print ranges from ±″·016 for line 14 to ±″·04 for lines 9 and 19, and to ±″·13 for the extreme lines 3 and 25, increasing regularly with the distance from the centre. But this apparent greater irregularity of the outer lines is not entirely arbitrary. For example, if we take the differences between the errors of lines 24 and 25 in the above tables for the fifteen plates,

At 13·5, these are + ″·21, + ·21, + ·22, + ·26, + ·26, + ·13, + ·13, + ·24, + ·08, + ·14, + ·21,
+ ·28, + ·16, + ·21, + ·22.
At 14·5, „ „ + ·16, + ·16, + ·16, + ·26, + ·18, + ·12, + ·22, + ·14, + ·05, + ·08, + ·17,
+ ·22, + ·07, + ·17, + ·20.

Whereas the absolute errors vary greatly from print to print, the differences are very accordant.

These systematic differences between the prints and the réseau give a very important correction to the place of Eros. If not applied, there would be an apparent spurious parallactic displacement of Eros amounting to about 0″·1 between east and

## TABLE 5.

### *Comparison of Prints with Réseau.*

Division Errors of Print referred to Mean of 9 to 19 at $y = 13{\cdot}5$.

| Réseau Line. / Plate. | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | Scale Correction. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5160 | −″·13 | −″·08 | −″·05 | −″·10 | −″·07 | ″·00 | −″·03 | ″·00 | +″·04 | −″·01 | −″·01 | −″·02 | −″·02 | −″·03 | +″·02 | +″·04 | −″·02 | −″·07 | −″·12 | −″·06 | ″·00 | ″·00 | −″·21 | +″·08 |
| 5172 | −·11 | −·06 | −·03 | −·07 | −·02 | −·01 | +·03 | +·05 | −·07 | −·05 | ·00 | −·02 | −·03 | −·01 | +·01 | +·04 | +·03 | −·03 | −·10 | +·05 | +·02 | +·01 | −·20 | +·16 |
| 5183 | +·14 | +·14 | +·12 | +·08 | +·14 | +·22 | +·20 | −·08 | +·02 | −·06 | −·10 | −·06 | −·04 | ·00 | ·00 | +·04 | +·06 | +·12 | +·06 | +·10 | +·14 | +·26 | +·04 | +·31 |
| 5190 | ·00 | ·00 | −·02 | −·03 | +·05 | ·00 | −·02 | −·02 | −·03 | −·05 | −·04 | −·04 | ·00 | −·03 | +·03 | +·07 | +·09 | +·03 | +·05 | −·03 | −·03 | −·01 | −·27 | +·02 |
| 5204 | −·10 | −·02 | −·04 | −·05 | −·01 | +·02 | +·05 | +·07 | +·01 | +·02 | ·00 | −·01 | −·08 | −·06 | −·02 | +·03 | −·01 | −·05 | −·03 | +·04 | +·14 | +·21 | −·05 | +·11 |
| 5218 | −·19 | −·09 | −·05 | −·15 | −·12 | +·10 | +·04 | +·07 | +·02 | +·02 | −·07 | −·05 | −·05 | ·00 | +·02 | ·00 | ·00 | −·01 | −·06 | −·04 | −·05 | −·07 | −·20 | +·16 |
| 5230 | −·09 | −·05 | −·05 | −·04 | −·02 | −·01 | −·01 | +·04 | +·04 | +·02 | −·03 | −·05 | −·07 | +·04 | +·02 | +·03 | +·01 | −·05 | −·09 | −·05 | +·08 | +·02 | −·11 | +·11 |
| 5239 | −·09 | −·01 | +·04 | −·10 | −·03 | +·03 | −·01 | ·00 | ·00 | −·01 | −·02 | −·02 | −·07 | +·02 | +·04 | +·03 | −·01 | −·01 | −·07 | −·07 | −·01 | +·09 | −·15 | +·01 |
| 5260 | −·03 | +·01 | +·11 | +·03 | −·03 | +·01 | −·08 | ·00 | +·01 | +·02 | −·05 | −·04 | +·04 | +·03 | +·05 | −·02 | +·06 | −·12 | ·00 | −·04 | +·03 | +·03 | −·05 | +·03 |
| 5283 | +·11 | +·12 | +·09 | ·00 | +·04 | +·06 | +·04 | −·03 | +·04 | −·05 | −·05 | −·04 | −·07 | −·01 | +·06 | +·08 | +·04 | −·02 | −·01 | +·09 | +·08 | +·13 | −·01 | −·04 |
| 5307 | −·39 | −·08 | +·05 | +·05 | +·12 | +·11 | +·06 | +·04 | +·03 | −·03 | −·04 | −·05 | −·02 | −·05 | +·02 | +·06 | +·04 | +·04 | −·06 | +·02 | +·04 | +·01 | −·20 | +·07 |
| 5324 | −·72 | −·39 | −·18 | −·14 | −·11 | +·11 | +·08 | +·14 | +·08 | +·03 | −·02 | −·07 | −·06 | −·13 | −·02 | +·02 | −·10 | −·06 | −·09 | −·09 | −·11 | −·08 | −·36 | +·27 |
| 5336 | −·08 | −·06 | ·00 | +·01 | −·02 | +·03 | ·00 | +·05 | +·09 | +·06 | −·05 | −·04 | −·05 | −·03 | +·02 | +·03 | −·02 | +·01 | −·02 | +·01 | +·07 | +·08 | −·08 | +·04 |
| 5352 | −·33 | −·18 | +·01 | −·01 | +·01 | +·09 | +·07 | +·04 | +·02 | +·03 | −·06 | −·08 | −·11 | −·06 | +·05 | +·05 | +·02 | +·02 | −·01 | −·04 | +·02 | −·01 | −·22 | +·12 |
| 5368 | +·42 | +·36 | +·26 | +·13 | +·03 | +·06 | +·02 | −·03 | +·01 | −·03 | −·06 | −·04 | ·00 | +·07 | +·01 | +·03 | +·04 | +·18 | +·11 | +·21 | +·22 | +·27 | +·05 | −·20 |
| Mean | −·106 | −·026 | +·017 | −·026 | −·003 | +·056 | +·029 | +·023 | +·021 | −·006 | −·040 | −·043 | −·042 | −·017 | +·020 | +·035 | +·015 | −·001 | −·029 | +·007 | +·043 | +·063 | −·135 | |
| Prob. Error | ±·028 | ±·022 | ±·016 | ±·013 | ±·011 | ±·011 | ±·009 | ±·007 | ±·006 | ±·007 | ±·005 | ±·004 | ±·005 | ±·007 | ±·006 | ±·007 | ±·009 | ±·011 | ±·011 | ±·013 | ±·016 | ±·022 | ±·028 | |

## TABLE 6.

### *Comparison of Prints with Réseau.*

Division Errors of Prints referred to the Mean of 9 to 19 at $y = 14{\cdot}5$.

| Réseau Line. / Plate. | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | Scale Correction. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5160 | − ″·12 | − ″·04 | − ″·07 | − ″·04 | − ″·14 | − ″·02 | − ″·03 | + ″·02 | + ″·05 | + ″·09 | − ″·05 | − ″·06 | − ″·02 | + ″·01 | + ″·02 | + ″·02 | − ″·06 | − ″·04 | + ″·01 | + ″·01 | − ″·03 | − ″·05 | − ″·21 | + ″·10 |
| 5172 | − ·13 | − ·09 | − ·08 | ·00 | − ·07 | − ·01 | + ·03 | − ·01 | + ·04 | + ·05 | − ·10 | − ·07 | − ·07 | + ·05 | ·00 | + ·02 | + ·02 | + ·03 | ·00 | − ·08 | − ·09 | − ·07 | − ·23 | + ·19 |
| 5183 | + ·08 | + ·08 | + ·12 | + ·06 | + ·12 | + ·16 | + ·22 | − ·06 | − ·06 | − ·08 | − ·06 | − ·06 | − ·04 | ·00 | + ·06 | + ·02 | + ·06 | + ·08 | + ·06 | + ·04 | + ·08 | + ·20 | + ·04 | + ·32 |
| 5190 | − ·02 | + ·04 | − ·01 | + ·05 | + ·03 | + ·01 | − ·03 | ·00 | ·00 | + ·02 | − ·09 | − ·04 | + ·01 | + ·03 | + ·04 | + ·02 | + ·08 | + ·08 | + ·06 | + ·05 | + ·03 | − ·07 | − ·33 | + ·06 |
| 5204 | − ·17 | − ·07 | − ·07 | ·00 | − ·03 | + ·05 | + ·05 | + ·05 | + ·11 | + ·10 | − ·06 | − ·03 | − ·04 | − ·03 | − ·05 | − ·05 | − ·01 | − ·02 | + ·05 | + ·06 | + ·09 | + ·12 | − ·06 | + ·12 |
| 5218 | − ·12 | − ·12 | − ·03 | − ·09 | − ·01 | − ·01 | + ·01 | + ·20 | ·00 | + ·01 | − ·03 | − ·08 | − ·01 | − ·03 | + ·01 | + ·02 | − ·02 | − ·02 | ·00 | − ·07 | − ·03 | + ·04 | − ·08 | + ·12 |
| 5230 | − ·12 | − ·11 | − ·06 | − ·10 | − ·05 | − ·03 | − ·02 | + ·04 | + ·04 | + ·08 | − ·11 | − ·02 | − ·01 | + ·06 | + ·02 | − ·03 | − ·05 | − ·09 | − ·03 | − ·07 | − ·03 | ·00 | − ·22 | + ·07 |
| 5239 | − ·07 | − ·07 | + ·01 | − ·02 | + ·12 | + ·02 | + ·01 | ·00 | + ·09 | − ·01 | − ·06 | − ·05 | − ·03 | − ·04 | ·00 | + ·01 | + ·06 | + ·05 | − ·02 | + ·02 | + ·06 | + ·03 | − ·11 | + ·01 |
| 5260 | − ·05 | + ·05 | + ·07 | + ·05 | − ·05 | + ·06 | − ·04 | − ·02 | + ·02 | + ·03 | + ·01 | − ·06 | ·00 | ·00 | − ·03 | + ·03 | + ·07 | − ·01 | + ·07 | + ·06 | + ·07 | − ·04 | − ·09 | + ·01 |
| 5283 | + ·06 | + ·13 | + ·10 | + ·02 | + ·03 | + ·04 | ·00 | + ·04 | + ·07 | + ·01 | − ·12 | − ·04 | − ·05 | + ·02 | + ·01 | + ·05 | ·00 | + ·09 | + ·13 | − ·10 | + ·12 | + ·09 | + ·01 | − ·06 |
| 5307 | − ·39 | − ·15 | − ·06 | + ·08 | + ·01 | + ·08 | + ·01 | + ·05 | + ·06 | + ·02 | − ·12 | − ·09 | − ·04 | + ·03 | + ·01 | + ·01 | + ·04 | − ·04 | − ·01 | − ·05 | − ·06 | − ·08 | − ·25 | + ·07 |
| 5324 | − ·64 | − ·43 | − ·26 | + ·06 | + ·06 | + ·16 | + ·12 | + ·08 | + ·12 | + ·04 | − ·07 | − ·04 | − ·03 | − ·02 | − ·05 | − ·08 | − ·07 | − ·05 | − ·03 | − ·02 | − ·06 | − ·07 | − ·29 | + ·28 |
| 5336 | − ·17 | − ·11 | − ·05 | + ·04 | + ·02 | + ·05 | + ·03 | + ·03 | + ·04 | + ·05 | − ·04 | − ·03 | − ·04 | − ·01 | + ·03 | + ·01 | − ·04 | − ·02 | − ·01 | + ·02 | − ·02 | + ·02 | − ·05 | + ·08 |
| 5352 | − ·31 | − ·19 | − ·01 | + ·13 | + ·08 | + ·06 | + ·04 | + ·01 | + ·04 | + ·02 | − ·07 | − ·09 | − ·07 | + ·02 | + ·03 | + ·01 | + ·06 | − ·02 | + ·03 | + ·03 | − ·05 | − ·03 | − ·20 | + ·13 |
| 5368 | + ·39 | + ·38 | + ·34 | + ·19 | + ·04 | − ·02 | + ·01 | + ·02 | − ·05 | − ·02 | − ·15 | − ·06 | − ·01 | + ·06 | + ·06 | + ·06 | + ·10 | + ·08 | + ·14 | + ·14 | + ·17 | + ·23 | + ·03 | − ·16 |
| Mean | − ·119 | − ·047 | − ·004 | + ·029 | + ·011 | + ·040 | + ·027 | + ·030 | + ·038 | + ·027 | − ·075 | − ·055 | − ·030 | + ·010 | + ·011 | + ·008 | + ·016 | + ·007 | + ·030 | + ·003 | + ·017 | + ·021 | − ·136 | |
| Prob. Error | ± ·028 | ± ·022 | ± ·016 | ± ·013 | ± ·011 | ± ·011 | ± ·009 | ± ·007 | ± ·006 | ± ·007 | ± ·005 | ± ·004 | ± ·005 | ± ·007 | ± ·006 | ± ·007 | ± ·009 | ± ·011 | ± ·011 | ± ·013 | ± ·016 | ± ·022 | ± ·028 | |

west positions, and an error of at least $''\cdot025$ in the final value of the solar parallax from Astrographic photographs.

The cause of these differences is somewhat uncertain. They cannot be due to a shrinkage of the film during or after development, for such a shrinkage would be, in the mean of a number of plates, fairly symmetrical about the centre. Perhaps the scale-corrections which were eliminated from the above results, and the great accidental errors of the outer lines, are partly due to such a shrinkage. But, for instance, the systematic displacement of line 25 relative to line 24 could not be accounted for by a contraction of the film; and it will be shown later that the division errors here found are confirmed by an examination of the star-residuals; this would not be the case if they were caused by a shrinkage of the film after the exposure of the plate to the sky and réseau.

It may be noted that in printing the réseau the parallel rays necessarily pass through the glass of the réseau from the back before passing through the silver film. Also the breadth of the réseau line printed on the plate is generally from $1''\cdot5$ to $2''$, so that the displacement to be accounted for is only a small fraction of the breadth of the line. It seems, therefore, not improbable that the effect is due to unsymmetrical diffraction, which naturally varies from line to line.

### (3) *Examination of the Straightness of the Réseau Lines.*

So far, all the measurements described have been confined to the strip of the réseau near $y = 14$, and the result enables Eros to be accurately referred to stars distributed over this strip. But this strip may have in the mean an error relative to the area covered by the reference and comparison stars. If the ruling machine is not absolutely accurate a curvature of all the réseau lines may exist. A preliminary investigation had shown that if such a curvature exists at all it must be very small, but it might not be negligible in the present problem.

The straightness was tested by comparing the lines directly with a spider web mounted parallel to them in the double frame of the micrometer, so as to be viewed respectively by the two microscopes, as for the comparisons between the réseau and photographic plate. The motion of the frame perpendicularly to the line joining the microscopes allowed the different portions of the réseau line and spider line to be brought into view, and the distance between them measured. Sir David Gill has described a somewhat similar comparison with a spider line (*Memoirs R.A.S.*, vol. li.), though in that case the réseau could not be compared directly with the spider line, as was practicable with the Greenwich measuring apparatus.

In order to eliminate irregularities due to "knots" in the spider line, measures were repeated with the spider line turned over front to back. A more serious instrumental error (which was attributed to the slide which carries the spider line and réseau not moving perfectly in its plane) could only be eliminated by turning the réseau through 180° and measuring again. When this is done the curvature and other irregularities measured against the spider line are reversed in direction, while instrumental errors remain unaltered. The instrumental error associated with, say, $y = 9$ réseau direct will be associated with $y = 19$ réseau reversed, so that it is only possible to eliminate instrumental error from the means of pairs of points such as $y = 9$ and 19, or from the mean curvature, and not from the individual points.

Experiments were made both on the prints and on the réseau. For the réseau the investigation was almost entirely confined to line $x = 14$, since it happened to be impracticable (without modifying the micrometer) to measure any other line in both the direct and reversed position. Four series of measures were made at different times, and in the following table deviations from the straight line are tabulated, measures made being grouped according to the positions of the réseau and the spider line.

## TABLE 7.

*Réseau compared with Spider Line*, $x = 14$.

| Series. \ y | 4 | 4½ | 5 | 5½ | 6 | 12 | 13 | 14 | 15 | 16 | 22 | 22½ | 23 | 23½ | 24 | Sagitta. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | | | | | |
| **Réseau Direct, Wire Direct.** | | | | | | | | | | | | | | | | |
| 1 | − ″·07 | + ″·03 | + ″·01 | + ″·02 | + ″·01 | − ′·03 | − ″·01 | ″·00 | + ″·02 | + ″·02 | − ″·01 | − ″·02 | + ″·03 | + ″·02 | − ″·01 | ″·000 |
| 2 | + ·03 | + ·03 | ·00 | + ·04 | + ·06 | + ·02 | ·00 | − ·02 | + ·01 | − ·01 | + ·02 | ·00 | + ·01 | + ·06 | + ·07 | − ·030 |
| 3 | − ·05 | + ·04 | + ·04 | + ·08 | − ·01 | + ·02 | − ·01 | + ·01 | − ·02 | ·00 | + ·01 | ·00 | + ·04 | + ·03 | + ·03 | − ·022 |
| 4 | + ·03 | + ·08 | + ·05 | + ·05 | + ·02 | + ·03 | − ·08 | − ·02 | + ·03 | + ·05 | − ·01 | + ·05 | + ·07 | + ·02 | + ·10 | − ·046 |
| **Réseau Direct, Wire Reversed.** | | | | | | | | | | | | | | | | |
| 2 | + ·05 | + ·01 | + ·03 | ·00 | + ·09 | + ·02 | ·00 | − ·04 | − ·02 | + ·03 | + ·03 | ·00 | + ·02 | + ·01 | + ·12 | − ·034 |
| 3 | + ·08 | + ·11 | + ·03 | + ·09 | + ·07 | + ·03 | ·00 | − ·02 | − ·03 | + ·02 | + ·04 | + ·10 | + ·06 | + ·06 | + ·11 | − ·074 |
| 4 | + ·02 | + ·02 | + ·02 | + ·05 | + ·03 | ·00 | + ·02 | + ·03 | − ·01 | − ·04 | + ·02 | ·00 | + ·02 | + ·06 | + ·06 | − ·030 |
| **Réseau Reversed, Wire Direct.** | | | | | | | | | | | | | | | | |
| 1 | + ·03 | + ·05 | + ·07 | + ·08 | + ·11 | + ·01 | − ·05 | − ·03 | ·00 | + ·07 | + ·05 | + ·04 | + ·09 | + ·07 | + ·09 | − ·068 |
| 3 | − ·04 | − ·01 | − ·05 | + ·02 | + ·01 | + ·01 | − ·02 | − ·01 | + ·04 | − ·01 | − ·02 | − ·04 | ·00 | − ·01 | + ·01 | + ·014 |
| 4 | − ·03 | ·00 | − ·01 | − ·03 | + ·05 | − ·03 | + ·01 | ·00 | + ·03 | − ·01 | ·00 | − ·05 | + ·03 | + ·02 | ·00 | + ·002 |
| **Réseau Reversed, Wire Reversed.** | | | | | | | | | | | | | | | | |
| 3 | − ·07 | + ·03 | − ·01 | + ·02 | ·00 | ·00 | − ·02 | + ·01 | − ·04 | + ·06 | − ·05 | + ·01 | − ·03 | + ·02 | + ·01 | + ·006 |
| 4 | − ·02 | + ·01 | + ·01 | + ·02 | − ·05 | + ·05 | + ·03 | − ·03 | − ·06 | ·00 | − ·07 | + ·02 | + ·02 | − ·01 | + ·02 | + ·006 |
| Mean | − ·012 | + ·037 | + ·017 | + ·040 | + ·025 | + ·010 | − ·015 | − ·007 | − ·004 | + ·017 | − ·004 | + ·011 | + ·032 | + ·029 | + ·042 | − ·021 |

Taking from this table the "curvature" measured by the discordance between the middle of the line (represented by the mean of $y = 12, 13, 14, 15, 16$) and the line joining the two ends (represented by the means of $y = 4, 4\frac{1}{2}, 5, 5\frac{1}{2}, 6$ and $y = 22, 22\frac{1}{2}, 23, 23\frac{1}{2}, 24$ respectively) we obtain the following summary :—

### TABLE 8.

*Curvature of Réseau Line $x = 14$.*

Sagitta for $y = 5$ to $y = 23$.

| Series. | 1 | 2 | 3 | 4 |
|---|---|---|---|---|
| Réseau D, Wire D . . . . . | ″·000 | ″−·030 | ″−·022 | ″−·046 |
| „ D, „ R . . . . . | ... | −·034 | −·074 | −·030 |
| „ R, „ D . . . . . | −·068 | ... | +·014 | +·002 |
| „ R, „ R . . . . . | ... | ... | +·006 | +·006 |
| Means . | −·034 | −·032 | −·019 | −·017 |

As the réseau was not reversed in Series No. 2, instrumental error was not eliminated from the corresponding mean. Remembering this, the agreement between Series 2, 3, and 4 is very satisfactory; the discordance of Series 1 is hard to account for.

The parallelism of the réseau lines had already been tested by determining the division errors of the "$x$" lines 2, 8, 14, 20, and 26 (by the method described on p. xxx), at $y = 2$ and $y = 26$, as well as at $y = 14$, with similar tests for the parallelism of the "$y$" lines.

The following table shows that the lines are sensibly parallel :—

### TABLE 9.

| At Intersection with Line. | 2 | 8 | 14 | 20 | 26 |
|---|---|---|---|---|---|
| | | | *x Co-ordinates.* | | |
| 2 | ″·00 | −″·16 | −″·15 | −″·13 | ″·00 |
| 14 | ·00 | −·21 | −·21 | −·17 | ·00 |
| 26 | ·00 | −·17 | −·18 | −·18 | ·00 |
| | | | *y Co-ordinates.* | | |
| 2 | ·00 | +·05 | +·07 | +·09 | ·00 |
| 14 | ·00 | +·07 | +·11 | +·12 | ·00 |
| 26 | ·00 | +·03 | +·04 | +·06 | ·00 |

In examining the *photographed lines* the treatment was somewhat different. The aim of the investigation was to determine the mean error of the central strip with reference to the areas covered respectively by the reference and comparison stars. In such an investigation it is important that the measurements should be made at a very large number of points distributed over the areas covered by the stars, but it is not necessary that many measures should be made at each point, for the errors at the individual points are not required, but only the mean. For the same reason it is only necessary to arrange that instrumental errors are eliminated from the mean.

Eight plates were selected (from the fifteen previously referred to) and measured according to the following scheme. Lines 1 to 13 could only be measured with réseau direct, and lines 15 to 27 with the réseau reversed. The scheme provided for the measurement of 110 points uniformly distributed over the comparison star area, and 298 points (equivalent to about 200 points uniformly distributed) over the reference star area, each measured on at least two prints.

*Straightness of Lines on Prints, Scheme of Measures.*

| Plate. | Date 1900. | Réseau Lines $x$. | Prints. | Spider Lines. |
|---|---|---|---|---|
| 5172 | October 20 | 4, 6, 8, 10, 12, 14 | Direct | Reversed |
| 5190 | 26 | 14, 16, 18, 20, 22, 24 | Reversed | Direct |
| 5204 | 28 | 4, 6, 8, 10, 12, 14 | Direct | Direct |
| 5218 | November 10 | 14, 15, 17, 19, 21, 23 | Reversed | Reversed |
| 5239 | 15 | 14, 16, 18, 20, 22, 24 | Reversed | Reversed |
| 5260 | 22 | 5, 7, 9, 11, 13, 14 | Direct | Reversed |
| 5307 | December 15 | 14, 15, 17, 19, 21, 23 | Reversed | Direct |
| 5352 | January 8 | 5, 7, 9, 11, 13, 14 | Direct | Direct |

Measures were made at $y=9\frac{1}{2}$, $10\frac{1}{2}$, $11\frac{1}{2}$, $12\frac{1}{2}$, $13\frac{1}{2}$, $14\frac{1}{2}$, $15\frac{1}{2}$, $16\frac{1}{2}$, $17\frac{1}{2}$, and $18\frac{1}{2}$, and also at either $4\frac{1}{2}$, $5\frac{1}{2}$, $22\frac{1}{2}$, $23\frac{1}{2}$, or $6\frac{1}{2}$, $7\frac{1}{2}$, $20\frac{1}{2}$, $21\frac{1}{2}$.

The results are given in Table 10: on each line the mean of the errors from $y=9\frac{1}{2}$ to $y=18\frac{1}{2}$ has been arbitrarily put equal to zero, that portion of the line being taken as a standard.

Each of the errors tabulated is the mean of measures on two prints (except in the case of line 14, which was measured on all the 8 prints), so that but little reliance can be placed on the results for individual points. The curvature is quite sensible. For line 14 it amounts to $-''{\cdot}048$ (measured by the sagitta from 5 to 23), which may be compared with the results for the silver réseau in Table 8. The curvature cannot

## TABLE 10.

### *Test of Straightness of Réseau Lines on Prints.*

Division Errors of Prints by comparison with a Spider Line.

| x / y | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 |  | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | Mean. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
|  |  |  |  |  |  |  |  |  |  |  | (1) | (2) |  |  |  |  |  |  |  |  |  |  |  |
| 23½ | +″·06 | ″… | +″·17 | ″… | +″·14 | ″… | +″·11 | ″… | +″·10 | ″… | +″·12 | −″·09 | ″… | −″·09 | ″… | −″·01 | ″… | +″·03 | ″… | −″·03 | ″… | −″·12 | +″·035 |
| 22½ | +·04 | … | +·13 | … | +·07 | … | +·05 | … | + 07 | … | +·10 | −·04 | … | +·01 | … | ·00 | … | −·07 | … | −·02 | … | −·12 | +·018 |
| 21½ | … | −·03 | … | +·05 | … | +·02 | … | −·02 | … | −·01 | ·00 | −·02 | −·01 | … | −·01 | … | −·04 | … | +·05 | … | +·04 | … | +·002 |
| 20½ | … | −·02 | … | −·02 | … | ·00 | … | +·04 | … | +·06 | +·04 | −·01 | −·05 | … | −·01 | … | +·02 | … | +·05 | … | −·02 | … | +·006 |
| 19½ | … | … | … | … | … | … | … | … | … | … | … |  | … | … | … | … | … | … | … | … | … | … | … |
| 18½ | −·07 | ·00 | ·00 | +·05 | +·02 | +·01 | +·05 | −·01 | ·00 | +·02 | +·04 | −·01 | −·02 | −·04 | ·00 | −·06 | −·02 | ·00 | +·04 | +·04 | +·03 | −·03 | +·001 |
| 17½ | +·05 | +·03 | −·03 | +·01 | +·03 | −·01 | +·02 | +·02 | −·02 | +·01 | +·03 | −·02 | −·03 | −·03 | +·03 | +·02 | −·06 | −·02 | +·03 | +·01 | −·01 | −·01 | +·002 |
| 16½ | −·07 | +·10 | −·04 | +·03 | −·02 | −·01 | −·01 | −·03 | −·02 | −·01 | ·00 | −·02 | −·02 | ·00 | −·05 | +·01 | −·04 | ·00 | +·05 | +·02 | +·02 | +·02 | −·004 |
| 15½ | −·03 | −·02 | ·00 | +·01 | +·01 | +·01 | +·02 | +·03 | −·01 | ·00 | −·04 | −·01 | +·01 | +·05 | +·01 | +·01 | −·01 | +·03 | ·00 | +·05 | ·00 | −·01 | +·007 |
| 14½ | −·04 | +·03 | +·03 | −·02 | +·01 | −·02 | −·07 | −·03 | +·02 | −·02 | −·02 | −·02 | ·00 | +·01 | −·06 | +·01 | −·01 | ·00 | −·04 | ·00 | +·01 | ·00 | −·006 |
| 13½ | ·00 | +·02 | −·05 | −·07 | −·05 | −·05 | ·00 | +·01 | −·03 | −·03 | −·01 | +·02 | ·00 | +·04 | +·04 | +·02 | ·00 | +·03 | −·03 | −·02 | ·00 | +·04 | −·006 |
| 12½ | +·05 | −·09 | +·06 | +·02 | ·00 | ·00 | +·01 | +·02 | −·03 | −·01 | −·04 | +·02 | +·04 | +·03 | +·01 | −·01 | +·02 | +·01 | − 06 | −·03 | −·02 | +·01 | +·002 |
| 11½ | +·03 | +·01 | −·02 | ·00 | −·02 | +·03 | +·02 | −·01 | +·03 | +·03 | ·00 | ·00 | +·01 | −·02 | +·02 | ·00 | +·06 | ·00 | −·01 | ·00 | −·02 | +·04 | +·009 |
| 10½ | −·01 | −·05 | +·06 | −·03 | +·02 | +·03 | −·03 | ·00 | +·03 | −·05 | +·03 | +·02 | +·03 | −·03 | +·02 | −·01 | +·02 | +·02 | −·02 | −·04 | ·00 | −·06 | −·004 |
| 9½ | +·11 | ·00 | ·00 | ·00 | ·00 | +·01 | −·02 | ·00 | +·02 | +·07 | +·02 | +·02 | ·00 | −·01 | −·03 | ·00 | +·03 | −·07 | −·02 | −·05 | ·00 | ·00 | +·002 |
| 8½ | … | … | … | … | … | … | … | … | … | … | … |  | … | … | … | … | … | … | … | … | … | … | … |
| 7½ | … | −·01 | … | −·04 | … | ·00 | … | −·01 | … | +·03 | −·01 | ·00 | ·00 | … | −·04 | … | ·00 | … | −·04 | … | + 06 | … | −·006 |
| 6½ | … | +·01 | … | +·01 | … | −·05 | … | +·08 | … | +·04 | +·04 | ·00 | +·01 | … | −·01 | … | +·05 | … | ·00 | … | −·08 | … | +·010 |
| 5½ | +·12 | … | +·03 | … | +·06 | … | +·06 | … | +·11 | … | +·13 | +·07 | … | −·03 | … | −·07 | … | −·11 | … | −·10 | … | −·11 | +·003 |
| 4½ | +·16 | … | +·16 | … | +·06 | … | +·07 | … | +·15 | … | +·06 | −·01 | … | +·04 | … | −·05 | … | −·07 | … | −·13 | … | −·12 | +·027 |

The two sets of errors for line 14 are derived from plates measured direct and reversed respectively.

be given for the other lines separately, since instrumental error was only eliminated from their mean; but the mean curvature of all the even lines from $x=4$ to $x=24$ (measured by the same sagitta) is $-''{\cdot}020$.

To determine the correction which must be applied in consequence of this curvature when Eros is referred to *reference stars*, assume that the corrections previously determined have been applied so as to refer Eros correctly to the strip from $x=4$ to $x=24$, $y=13\frac{1}{2}$, and $y=14\frac{1}{2}$; a correction is now required to refer this strip to the whole square 4 to 24.

Turning to the last column of the Table 10 we find the mean error of the strip is $-''{\cdot}006$ (the mean of $-''{\cdot}006$ and $-''{\cdot}006$), and the mean error of the whole square is $+''{\cdot}005$ (the mean of all the numbers in the last column). Hence the error of the strip referred to the square is $-''{\cdot}011$.

### TABLE 11.

*Test of Straightness of Réseau Lines on Prints.*

| $x$<br>$y$ | 9 | 10 | 11 | 12 | 13 | 14 | | 15 | 16 | 17 | 18 | 19 | Mean. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| $18\frac{1}{2}$ | + ″·01 | + ″·05 | − ″·01 | ″·00 | + ″·02 | + ″·02 | ″·00 | − ″·01 | − ″·04 | ″·00 | − ″·06 | − ″·02 | − ″·005 |
| $17\frac{1}{2}$ | − ·01 | + ·02 | + ·02 | − ·02 | + ·01 | + ·01 | − ·01 | − ·03 | − ·03 | + ·03 | + ·02 | − ·06 | − ·004 |
| $16\frac{1}{2}$ | − ·01 | − ·01 | − ·03 | − ·02 | − ·01 | − ·01 | − ·01 | − ·05 | ·00 | − ·05 | + ·01 | − ·04 | − ·021 |
| $15\frac{1}{2}$ | + ·01 | + ·02 | + ·03 | − ·01 | − ·01 | − ·03 | − ·03 | ·00 | + ·05 | + ·01 | + ·01 | − ·01 | + ·008 |
| $14\frac{1}{2}$ | − ·02 | − ·07 | − ·03 | + ·02 | − ·01 | − ·01 | − ·02 | + ·01 | + ·01 | − ·06 | + ·01 | − ·01 | − ·015 |
| $13\frac{1}{2}$ | − ·05 | ·00 | + ·01 | − ·03 | − ·01 | ·00 | + ·01 | ·00 | + ·04 | + ·04 | + ·02 | ·00 | + ·003 |
| $12\frac{1}{2}$ | ·00 | + ·01 | + ·02 | − ·03 | + ·01 | − ·02 | + ·01 | + ·06 | + ·03 | + ·01 | − ·01 | + ·02 | + ·012 |
| $11\frac{1}{2}$ | + ·03 | + ·02 | − ·01 | + ·03 | + ·04 | ·00 | − ·01 | ·00 | − ·02 | + ·02 | ·00 | + ·06 | + ·016 |
| $10\frac{1}{2}$ | + ·03 | − ·03 | ·00 | + ·03 | − ·03 | + ·03 | + ·02 | + ·03 | − ·03 | + ·02 | − ·01 | + ·02 | + ·007 |
| $9\frac{1}{2}$ | + ·01 | − ·02 | ·00 | + ·02 | ·00 | + ·03 | + ·02 | − ·01 | − ·01 | − ·03 | ·00 | + ·03 | + ·001 |

The two sets of errors for line 14 are derived from plates measured direct and reversed respectively.

For the area covered by the *comparison stars* the results are given in Table 11. Some additional measures of lines 13, 14, 15 on prints not included in the Scheme have been included in the means given in this table. The irregularities appear to be purely accidental, and the smallness of the horizontal means shows that there is no appreciable error of the ruling machine within this area. The mean deviation from straightness (including error of measurement and accidental error of the print examined) is ±″·024.

The mean error of the central strip referred to the square 9 to 19 is −″·006 ±″·005.

## VI. DISCUSSION OF THE RESIDUALS OF STARS.

It may legitimately be asked whether, in spite of all precautions, the errors determined in the foregoing investigations and the accuracy claimed for the values found may not be to some extent illusory. Is it quite certain that all instrumental errors have been eliminated? Is it quite certain that there may not be other sources of division error which have not been considered? Fortunately, a discussion of the residuals of the reference and comparison stars supplies an independent check on the results obtained by direct measurement.

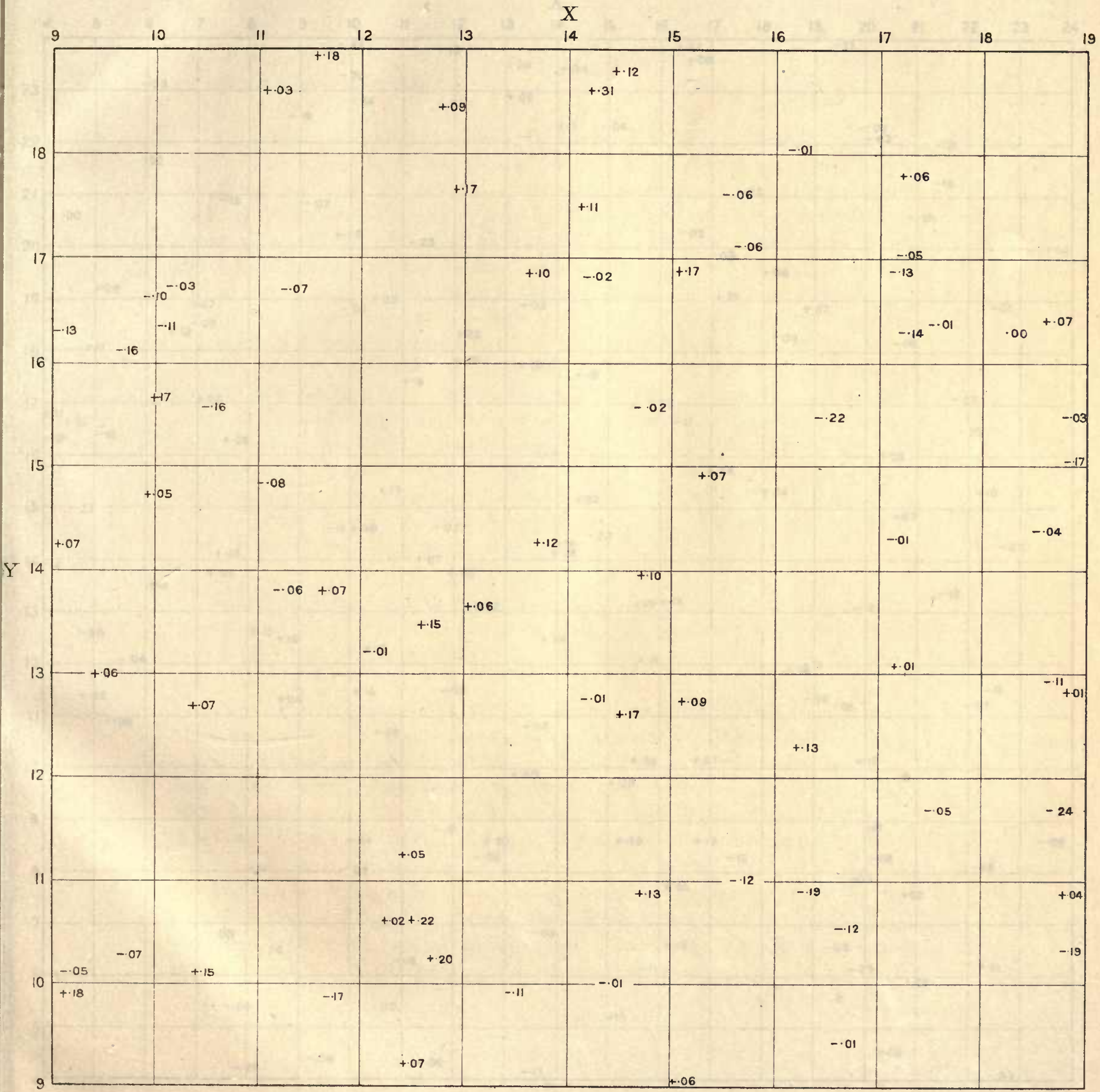
Before the measurements of the réseau and its prints were made, it was realised that considerable corrections were required in order to reconcile the places of the stars determined with the Astrographic telescope west and east respectively. The stars, in fact, showed a spurious parallax. The plate-centre was the same for all plates taken on any one night (evening and morning): if on the evening photographs the image of a star falls at $x=12$ $y=10$, on the morning photographs (with the réseau reversed) it will fall at $x=16$ $y=18$. It can be shown that the difference in the places of the star determined from the two sets of photographs should be equal to the sum of the residual division *corrections* required at these two points of the réseau.

An examination of the places of the stars was made for all nights on which at least two plates were taken with the Astrographic telescope in each position. There were 14 nights thus available; the number of comparison stars discussed was 73 and of the reference stars 146.

Figs. 5 and 6 show the data in this discussion for the comparison stars and reference stars respectively. The differences (Mean Residual, réseau direct)—(Mean Residual, réseau reversed) are entered at the point of the réseau where the image of the star fell when the réseau was direct. The residuals (calculated—observed) of the reference stars are referred to the mean of the reference stars on the plate; accordingly, the division errors deduced from them are referred to the square 4 to 24.

## Fig. 5.

## CHART OF RESIDUALS OF COMPARISON STARS.

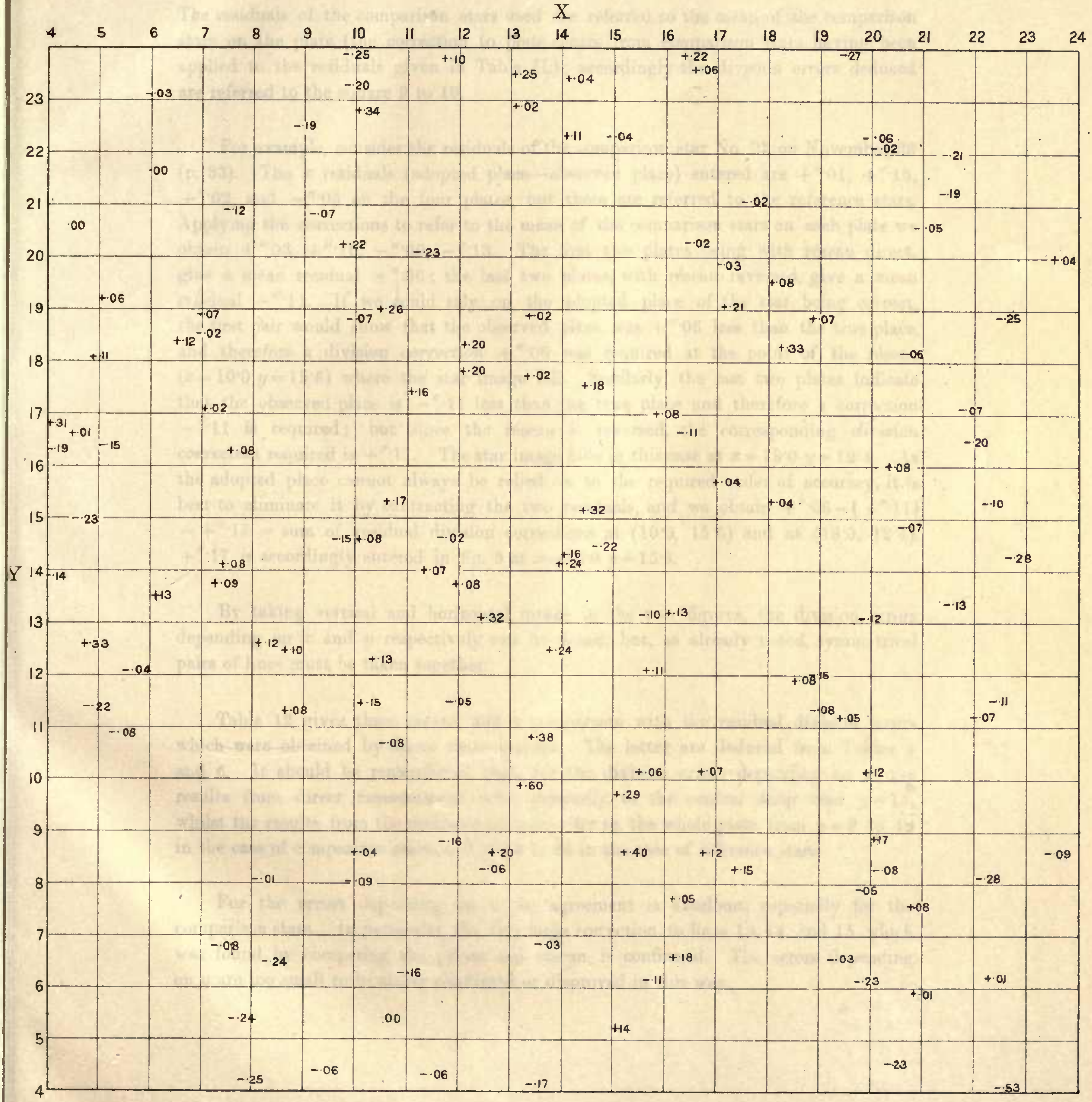


1761 08

Weller & Graham. Ltd Litho. London

Fig. 6.

## CHART OF RESIDUALS OF REFERENCE STARS.



1781 08

Weller & Graham, Ltd Litho London

The residuals of the comparison stars used are referred to the mean of the comparison stars on the plate (the correction to plate-centre from comparison stars having been applied to the residuals given in Table II.); accordingly the division errors deduced are referred to the square 9 to 19.

For example, consider the residuals of the comparison star No. 23 on November 23 (p. 33). The $x$ residuals (adopted place—observed place) entered are +″·01, +″·15, +″·02, and −″·05 on the four plates, but these are referred to the reference stars. Applying the corrections to refer to the mean of the comparison stars on each plate we obtain +″·03, +″·10, −″·09, −″·13. The first two plates being with réseau direct, give a mean residual +″·06; the last two plates, with réseau reversed, give a mean residual −″·11. If we could rely on the adopted place of the star being correct, the first pair would show that the observed place was +″·06 less than the true place, and therefore a division *correction* +″·06 was required at the point of the réseau ($x = 10{\cdot}0$ $y = 15{\cdot}6$) where the star image fell. Similarly, the last two plates indicate that the observed place is −″·11 less than the true place and therefore a correction −″·11 is required; but since the réseau is reversed, the corresponding *division correction* required is +″·11. The star image falls in this case at $x = 18{\cdot}0$ $y = 12{\cdot}4$. As the adopted place cannot always be relied on to the required order of accuracy, it is best to eliminate it by subtracting the two residuals, and we obtain +″·06 − (−″·11) = +″·17 = sum of residual division corrections at (10·0, 15·6) and at (18·0, 12·4). +″·17 is accordingly entered in fig. 5 at $x = 10{\cdot}0$ $y = 15{\cdot}6$.

By taking vertical and horizontal means in the two figures, the division errors depending on $x$ and $y$ respectively can be found, but, as already noted, symmetrical pairs of lines must be taken together.

Table 12 gives these means, and a comparison with the residual division errors which were obtained by direct measurement. The latter are deduced from Tables 5 and 6. It should be remembered that, for the division errors depending on $x$, the results from direct measurement refer primarily to the central strip near $y = 14$, whilst the results from the residuals of stars refer to the whole plate from $y = 9$ to 19 in the case of comparison stars, and $y = 4$ to 24 in the case of reference stars.

For the errors depending on $x$ the agreement is excellent, especially for the comparison stars. In particular, the very large correction to lines 13, 14, and 15, which was found by comparing the prints and réseau, is confirmed. The errors depending on $y$ are too small to be either confirmed or disproved in this way.

## TABLE 12.

## SUMS OF PAIRS OF RESIDUAL DIVISION ERRORS.

### (1) *Errors which depend on x.*

*Comparison Stars.* (From $y=9$ to 19.)

| $x=$ | 9, 19 | 10, 18 | 11, 17 | 12, 16 | 13, 15 | 14, 14 |
|---|---|---|---|---|---|---|
| Sums of Division Errors deduced from residuals of stars . . | +″·05 | +″·01 | +″·06 | +″·01 | −″·10 | −″·09 |
| Sums of Division Errors deduced by direct measurement (Tables 6 and 7), . . . . | + ·04 | + ·05 | + ·05 | + ·01 | − ·09 | − ·10 |

*Reference Stars.* (From $y=4$ to 24.)

| $x=$ | 5*, 23 | 7, 21 | 9, 19 | 11, 17 | 13, 15 |
|---|---|---|---|---|---|
| Sums of Division Errors deduced from residuals of stars . . | +″·08 | +″·04 | +″·04 | −″·04 | −″·11 |
| Sums of Division Errors deduced by direct measurement (Tables 6 and 7), . . . . | + ·01 | + ·01 | + ·04 | + ·03 | − ·08 |

### (2) *Errors which depend on y.*

*Comparison Stars.* ($x=9$ to 19.)

| $y=$ | 9½, 18½ | 10½, 17½ | 11½, 16½ | 12½, 15½ | 13½, 14½ |
|---|---|---|---|---|---|
| Sums of Errors deduced from residuals of stars . . . . | − ″·03 | − ″·01 | + ″·04 | ″·00 | − ″·04 |
| Sums of Errors deduced by comparison with spider line . | ·00 | ·00 | ·00 | + ·02 | − ·01 |

*Reference Stars.* ($x=4$ to 24.)

| $y=$ | 5*, 23 | 7, 21 | 9, 19 | 11, 17 | 13, 15 |
|---|---|---|---|---|---|
| Sums of Errors deduced from residuals of stars . . . . | + ″·06 | + ″·05 | − ″·06 | − ″·02 | − ″·04 |
| Sums of Errors deduced by comparison with spider line . . | + ·03 | ·00 | − ·01 | − ·01 | − ·01 |

* In this table, by the division error at 5 is strictly meant the mean division error in the space between lines 4 and 6, which is ¼ (error at 4 + error at 6 + 2 × error at 5). Similarly for the other lines.

An important application is to examine the correction for curvature, which must be applied to the strip between $y=13$ and $y=15$ to refer it to the rest of the square.

The residuals (differences réseau direct—reversed) of the comparison stars which fall in the strip are entered in the accompanying diagram (fig. 7), *after correction for division errors which depend on x.* The mean is $+''\cdot04 \pm ''\cdot012$.

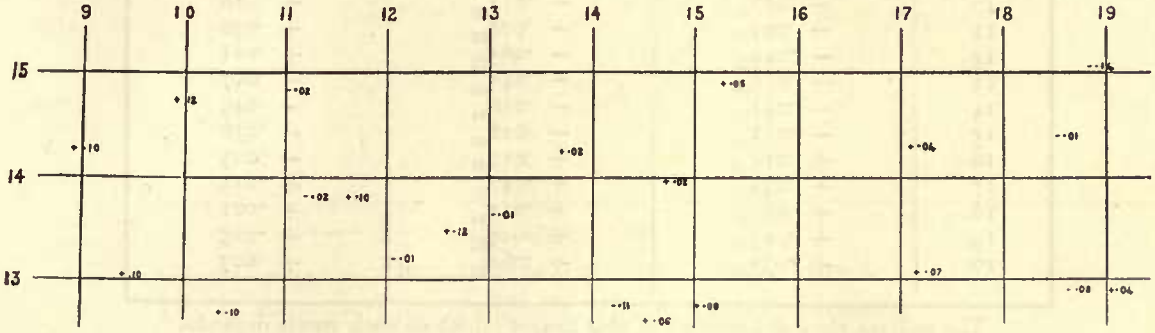


FIG. 7.—Residuals of Comparison Stars (corrected).

This should be twice the division correction of the strip, so that the deduced division *error* is $-''\cdot02 \pm ''\cdot006$, which may be compared with the result $-''\cdot006 \pm ''\cdot005$ from the spider line investigation.

The corresponding division error (referred to 4 to 24) from the residuals of reference stars is $''\cdot00 \pm ''\cdot014$, which may be compared with $-''\cdot011$ found by the spider line investigation, but the probable error in this case is too great for the result to be of value.

The advantage of discussing *differences* of residuals is that errors of the star places are eliminated. A discussion was, however, also made of the actual residuals of comparison stars, réseau direct and réseau reversed separately. This discussion makes use of more material than the discussion of differences, and gives the division errors directly instead of the sums of pairs of errors, but the division errors found in this way tend to be less (numerically) than the truth. For if, for instance, a star's place is determined from one plate only its residual will necessarily be zero, and more generally the effect of using a star place determined from insufficient material is to diminish (numerically) the residuals. Care was taken to exclude from the discussion as far as possible stars whose places were insufficiently determined.

### TABLE 13.

### *Division Errors which depend on x.*

| $x$ | From Residuals of Stars. | | By direct measurement (Tables 5 and 6). |
|---|---|---|---|
| | Réseau direct. | Réseau reversed. | |
| 8 | $+{}''\cdot032_{11}$ | $-{}''\cdot010_{14}$ | $+{}''\cdot048$ |
| 9 | $+\cdot010_{31}$ | $+\cdot038_{41}$ | $+\cdot028$ |
| 10 | $-\cdot007_{45}$ | $-\cdot013_{20}$ | $+\cdot026$ |
| 11 | $-\cdot005_{27}$ | $-\cdot008_{39}$ | $+\cdot030$ |
| 12 | $-\cdot024_{27}$ | $-\cdot003_{33}$ | $+\cdot011$ |
| 13 | $-\cdot059_{39}$ | $-\cdot048_{46}$ | $-\cdot057$ |
| 14 | $-\cdot042_{30}$ | $-\cdot016_{34}$ | $-\cdot049$ |
| 15 | $-\cdot023_{36}$ | $-\cdot028_{44}$ | $-\cdot036$ |
| 16 | $+\cdot015_{43}$ | $+\cdot015_{36}$ | $-\cdot003$ |
| 17 | $+\cdot034_{31}$ | $+\cdot047_{47}$ | $+\cdot015$ |
| 18 | $+\cdot052_{27}$ | $+\cdot011_{44}$ | $+\cdot021$ |
| 19 | $+\cdot033_{35}$ | $+\cdot009_{32}$ | $+\cdot015$ |
| 20 | $+\cdot035_{12}$ | $+\cdot061_{10}$ | $+\cdot003$ |

The suffixes show the number of star images on which each result depends.

The $x$ division errors determined in this way are given in Table 13, and are shown by the curves fig. 8. The agreement with the curve showing results of direct measurement leaves no room for doubt that the latter corrections are actually required. If a small scale-constant (which corresponds to a tilt of the curve) were removed from the results of the star-residuals the agreement would be still more close.

### TABLE 14.

### *Division Errors which depend on y.*

| $y$ | From Residuals of Stars. | | By direct measurement (Table 11). |
|---|---|---|---|
| | Réseau direct. | Réseau reversed. | |
| $18\frac{1}{2}$ | $-{}''\cdot014_{41}$ | $-{}''\cdot009_{41}$ | $-\cdot005$ |
| $17\frac{1}{2}$ | $+\cdot010_{33}$ | $+\cdot017_{42}$ | $-\cdot004$ |
| $16\frac{1}{2}$ | $+\cdot002_{56}$ | $-\cdot019_{48}$ | $-\cdot021$ |
| $15\frac{1}{2}$ | $+\cdot026_{29}$ | $+\cdot030_{39}$ | $+\cdot008$ |
| $14\frac{1}{2}$ | $-\cdot014_{38}$ | $-\cdot011_{49}$ | $-\cdot015$ |
| $13\frac{1}{2}$ | $-\cdot014_{42}$ | $-\cdot040_{48}$ | $+\cdot003$ |
| $12\frac{1}{2}$ | $-\cdot034_{34}$ | $+\cdot035_{39}$ | $+\cdot012$ |
| $11\frac{1}{2}$ | $+\cdot066_{24}$ | $+\cdot026_{51}$ | $+\cdot016$ |
| $10\frac{1}{2}$ | $+\cdot014_{59}$ | $+\cdot015_{48}$ | $+\cdot007$ |
| $9\frac{1}{2}$ | $-\cdot004_{38}$ | $-\cdot019_{35}$ | $+\cdot001$ |

The division errors depending on $y$ (curvature errors) are shown in Table 14 and fig. 9. Here the quantities to be measured are small compared with the accidental error, but the general similarity of the three curves is clearly noticeable.

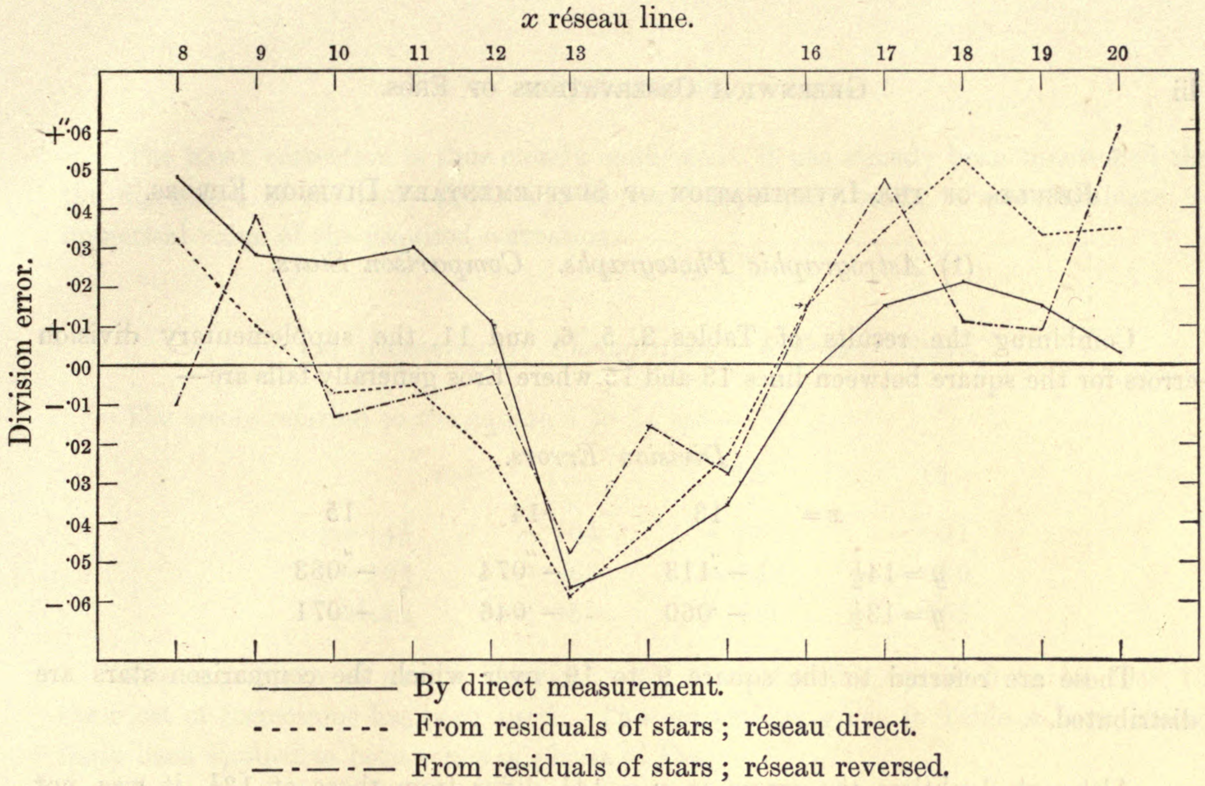


FIG. 8.—Division Errors which depend on *x*.

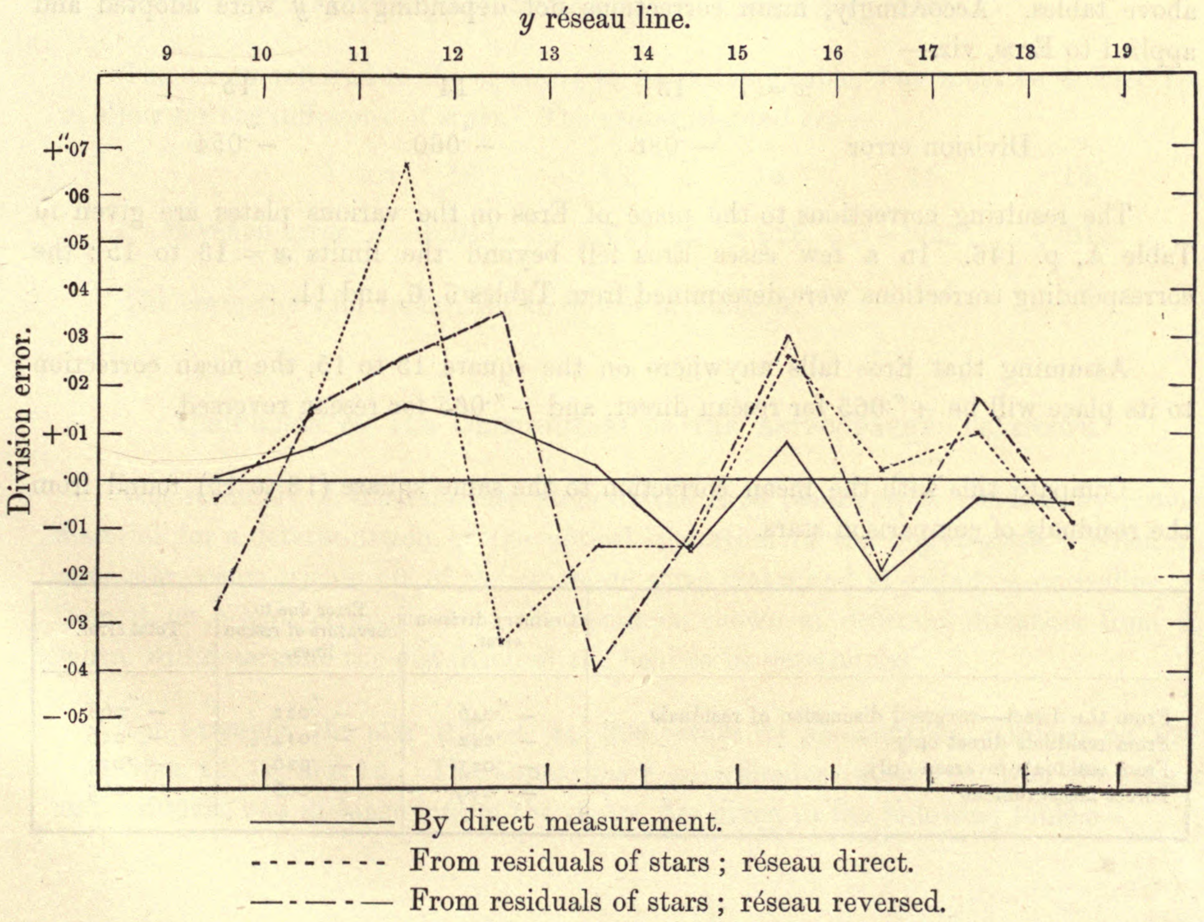


FIG. 9.—Division Errors which depend on *y*.

## RESULTS OF THE INVESTIGATION OF SUPPLEMENTARY DIVISION ERRORS.

### (1) *Astrographic Photographs. Comparison Stars.*

Combining the results of Tables 3, 5, 6, and 11, the supplementary division errors for the square between lines 13 and 15 where Eros generally falls are—

*Division Errors.*

| $x =$ | 13 | 14 | 15 |
|---|---|---|---|
| $y = 14\frac{1}{2}$ | − ″·113 | − ″·074 | − ″·033 |
| $y = 13\frac{1}{2}$ | − ·060 | − ·046 | − ·071 |

These are referred to the square 9 to 19, over which the comparison stars are distributed.

Although doubtless the errors at $y = 14\frac{1}{2}$ differ from those at $13\frac{1}{2}$, it was not considered well to place too much reliance on the difference along $y$ shown in the above tables. Accordingly, mean corrections not depending on $y$ were adopted and applied to Eros, viz.—

| $x =$ | 13 | 14 | 15 |
|---|---|---|---|
| Division error | − ″·086 | − ″·060 | − ″·054 |

The resulting corrections to the place of Eros on the various plates are given in Table A, p. 146. In a few cases Eros fell beyond the limits $x = 13$ to $15$; the corresponding corrections were determined from Tables 5, 6, and 11.

Assuming that Eros falls anywhere on the square 13 to 15, the mean correction to its place will be + ″·065 for réseau direct, and − ″·065 for réseau reversed.

Compare this with the mean correction to the same square (13 to 15) found from the residuals of comparison stars.

| | Ordinary division error. | Error due to curvature of réseau lines. | Total error. |
|---|---|---|---|
| From the direct—reversed discussion of residuals . | − ″·046 | − ″·022 | − ″·068 |
| From residuals direct only . . . . . . | − ·042 | − ·014 | − ·056 |
| From residuals reversed only . . . . . | − ·027 | − ·026 | − ·053 |
| Direct measurement . . . . . . . | − ·059 | − ·006 | − ·065 |

The mean correction is thus closely confirmed; it has already been mentioned that the discussion of residuals direct and reversed separately tends to underestimate the numerical value of the required correction.

### (2) *Astrographic Photographs. Reference Stars.*

The errors referred to the square 4 to 24 are—

| $x =$ | 13 | 14 | 15 |
|---|---|---|---|
| $y = 14\frac{1}{2}$ | −″·104 | −″·068 | −″·031 |
| $y = 13\frac{1}{2}$ | −·063 | −·044 | −·079 |
| Mean | −·084 | −·056 | −·055 |

The means are so nearly identical with those for the square 9 to 19 that the same set of corrections has been used. The corrections given in Table A have accordingly been applied to both series of places of Eros.

### (3) *Thompson Photographs. Comparison Stars.*

The errors referred to the square 4 to 24 are applicable, but must be divided by 2 to allow for the difference of scale. The errors adopted are—

| $x =$ | 12 | 13 | 14 | 15 | 16 |
|---|---|---|---|---|---|
| Division error | +″·011 | −″·041 | −″·028 | −″·028 | −″·011 |

The corrections for each plate are given in Table A.

## DISTORTION OF THE OBJECT-GLASS OF THE ASTROGRAPHIC TELESCOPE.

The residuals of the reference stars of the Eros photographs incidentally provide material for a determination of the optical distortion of the object-glass. When the same star occurs within 40′ of the centre on some plates and at distances exceeding 45′ from it on others, comparison of the residuals shown at different distances from the centre will determine the distortion of the field to be determined.

For example, the star B.D. + 44° 326 occurs on photographs obtained on 1900 December 13, 15, and 16. The approximate co-ordinates (measured from the centre) and residuals, and distance $r$ from the centre, are given in the following table :—

### TABLE 15.

| No. of Plate. | Position of Instrument. | Date. | Approximate Co-ordinates and Distance from Centre. | | | Residuals (Tab.—Obs.). | |
|---|---|---|---|---|---|---|---|
| | | | $x$ | $y$ | $r$ | $\Delta x$ | $\Delta y$ |
| 5288 | E | 1900.<br>December 13 | −1000″ | −3100″ | 55′ | +″·05 | −″·06 |
| 89 | E | ” | ” | ” | ” | − ·06 | − ·22 |
| 90 | E | ” | ” | ” | ” | − ·11 | − ·15 |
| 94 | E | ” | ” | ” | ” | + ·13 | − ·34 |
| 97 | E | ” | ” | ” | ” | + ·10 | + ·07 |
| 99 | W | December 15 | −2400 | − 200 | 40 | + ·16 | − ·40 |
| 5300 | W | ” | ” | ” | ” | − ·15 | − ·36 |
| 04 | E | ” | ” | ” | ” | − ·06 | − ·36 |
| 06 | E | ” | ” | ” | ” | + ·02 | − ·27 |
| 07 | E | ” | ” | ” | ” | − ·34 | − ·28 |
| 08 | W | December 16 | −3000 | +1300 | 55 | − ·13 | − ·42 |

| Date. | Weight. | Mean Residuals. | |
|---|---|---|---|
| | | $x$ | $y$ |
| 1900.<br>December 13 | 5 | + ″·02 | − ″·14 |
| ” 15 | 5 | − ·07 | − ·33 |
| ” 16 | 1 | − ·13 | − ·42 |

Images within 40′ of the centre have been considered as sensibly free from optical distortion. Thus by subtraction the following are obtained :—

| $x$ | $y$ | $r$ | $\Delta x$ | $\Delta y$ | No. of Photos. |
|---|---|---|---|---|---|
| −1000″ | −3100″ | 55 | −″·09 | −″·19 | 5, 5 |
| −3000 | +1300 | 55 | +·06 | +·09 | 1, 5 |

The quantities $\Delta x$ and $\Delta y$ were tabulated for all the reference stars and plotted as shown in the diagram, and the values of $\Delta r$ (the radial component) measured off.

The values of $\Delta r$ found between different limits of distance from the centre are shown in Table 16, the number of photographs on which the results depend being given in the second column, the second number in the column referring to the comparison photographs on which the images are within 40′ of the centre.

TABLE 16.

| $r$=45′ to 50′. | | $r$=50′ to 55′. | | $r$=55′ to 60′. | | $r$=60′ to 65′. | |
|---|---|---|---|---|---|---|---|
| Δ$r$ | No. of Photos. | Δ$r$ | No. of Photos. | Δ$r$ | No. of Photos. | Δ$r$ | No. of Photos. |
| +″·15 | 3, 5 | +″·13 | 5, 1 | −″·04 | 1, 2 | −″·47 | 1, 5 |
| +·15 | 2, 6 | +·18 | 3, 3 | +·20 | 5, 5 | −·42 | 1, 1 |
| +·11 | 5, 5 | −·05 | 2, 1 | −·02 | 1, 5 | +·26 | 1, 3 |
| −·10 | 3, 5 | −·11 | 5, 1 | −·13 | 1, 10 | −·29 | 4, 2 |
| −·25 | 1, 5 | −·13 | 2, 3 | −·20 | 3, 6 | −·30 | 5, 2 |
| −·29 | 3, 3 | −·19 | 1, 2 | −·22 | 6, 4 | −·01 | 1, 2 |
| −·03 | 7, 7 | +·02 | 5, 5 | +·06 | 3, 11 | −·43 | 2, 7 |
| +·04 | 3, 2 | +·02 | 5, 4 | +·19 | 4, 10 | −·06 | 1, 4 |
| −·07 | 1, 10 | −·39 | 5, 6 | +·37 | 3, 4 | +·28 | 3, 1 |
| +·07 | 5, 5 | +·33 | 1, 3 | +·07 | 1, 3 | −·72 | 1, 3 |
| +·08 | 7, 7 | −·11 | 5, 3 | ·00 | 3, 6 | −·15 | 1, 7 |
| −·09 | 5, 7 | −·28 | 3, 1 | +·07 | 1, 3 | +·11 | 3, 4 |
| +·10 | 5, 5 | −·10 | 5, 3 | +·12 | 6, 5 | −·15 | 1, 1 |
| +·19 | 3, 6 | −·04 | 6, 6 | −·18 | 4, 13 | −·19 | 1, 1 |
| +·06 | 1, 3 | −·21 | 2, 3 | ·00 | 4, 8 | | |
| +·60 | 1, 1 | +·19 | 3, 1 | +·03 | 6, 3 | | |
| −·10 | 5, 12 | +·12 | 4, 1 | −·44 | 7, 4 | | |
| −·09 | 1, 4 | −·05 | 6, 15 | +·13 | 2, 15 | | |
| +·02 | 5, 9 | −·09 | 6, 3 | +·12 | 4, 1 | | |
| −·17 | 5, 3 | −·04 | 2, 10 | +·02 | 3, 4 | | |
| +·11 | 2, 1 | −·21 | 1, 1 | +·10 | 1, 2 | | |
| −·28 | 2, 6 | +·04 | 2, 4 | +·02 | 1, 1 | | |
| +·07 | 7, 10 | −·02 | 1, 6 | −·87 | 1, 6 | | |
| −·05 | 7, 8 | +·49 | 1, 7 | −·39 | 4, 3 | | |
| −·01 | 7, 7 | −·10 | 3, 1 | −·26 | 4, 3 | | |
| −·11 | 1, 7 | +·22 | 4, 4 | −·11 | 4, 1 | | |
| +·08 | 3, 5 | −·14 | 2, 3 | −·40 | 1, 3 | | |
| −·16 | 5, 3 | −·18 | 3, 4 | −·12 | 3, 4 | | |
| −·07 | 2, 1 | −·12 | 5, 1 | +·02 | 1, 1 | | |
| +·10 | 2, 1 | ... | ... | −·30 | 3, 4 | | |
| +·07 | 3, 1 | ... | ... | −·66 | 1, 3 | | |
| +·15 | 2, 1 | ... | ... | −·56 | 1, 3 | | |
| +·04 | 3, 1 | | | | | | |
| −·12 | 4, 4 | | | | | | |
| +·14 | 4, 4 | | | | | | |
| −·02 | 1, 4 | | | | | | |
| +·19 | 1, 1 | | | | | | |
| +·04 | 3, 4 | | | | | | |

| $r$=65′ to 70′. | |
|---|---|
| Δ$r$ | No. of Photos. |
| −″·35 | 4, 13 |
| −·20 | 1, 1 |
| −·24 | 2, 4 |
| −·41 | 3, 3 |
| −1·02 | 2, 4 |
| −·31 | 3, 3 |
| +·24 | 1, 1 |
| −·32 | 5, 1 |

| $r$=70′ to 75′. | |
|---|---|
| Δ$r$ | No. of Photos. |
| +″·11 | 2, 5 |
| −·74 | 7, 4 |
| +·02 | 4, 1 |
| −·12 | 2, 5 |

The means in the above tables were taken in two ways: (I.) the simple mean, the result for each star being considered of equal weight; (II.) the weighted mean, the weight being equal to the number of photographs on which the distorted images occur. The results are shown in the following table:—

| Limits of Distance. | Mean Distance from Centre. | No. of Stars. | Weight. | Mean Distortion. |  | Mean Discordance after Correction for Distortion. | Mean Discordance (Uncorrected). |
|---|---|---|---|---|---|---|---|
|  |  |  |  | (I.) | (II.) |  |  |
| ′ ′ | ′ |  |  | ″ | ″ | ″ | ″ |
| 45–50 | 47·5 | 38 | 130 | +·014 | +·005 | ±·12 | ±·12 |
| 50–55 | 52·5 | 29 | 98 | −·029 | −·044 | ·14 | ·15 |
| 55–60 | 57·5 | 32 | 93 | −·106 | −·083 | ·21 | ·20 |
| 60–65 | 61·6 | 14 | 26 | −·181 | −·166 | ·21 | ·27 |
| 65–75 | 70·0 | 12 | 36 | −·262 | −·354 | ·25 | ·34 |

The differences between the residuals have been regarded as entirely due to optical distortion. It should, however, be mentioned that only the provisional division errors were used, so that the discordance between the prints and the réseau has not been taken into account. It is possible that part (if not all) of what is here attributed to the distortion of the object-glass may be due to this discordance between the prints and réseau; but as the investigation of the latter was confined to the lines 3 to 25, whilst the supposed distortion is mainly sensible beyond these limits, the cause must be left uncertain.

The table given above shows—

(1) Within 55′ from the centre the star-images are not seriously distorted, but beyond 55′ they are sensibly displaced towards the centre of the plate.

(2) The amount of this displacement is subject to such variations that very little is gained by applying this mean correction. This is clear from the last two columns of the above table, the mean discordance (irrespective of sign) being sensibly the same as the mean discordance obtained after applying the mean correction.

(3) The falling off in accuracy is very marked beyond 55′ from the centre.

As has already been mentioned, reference stars at a greater distance than 55′ from the centre have not been used in forming the final results (except in one or two instances when the number of suitable stars within 55′ of the centre was very small).

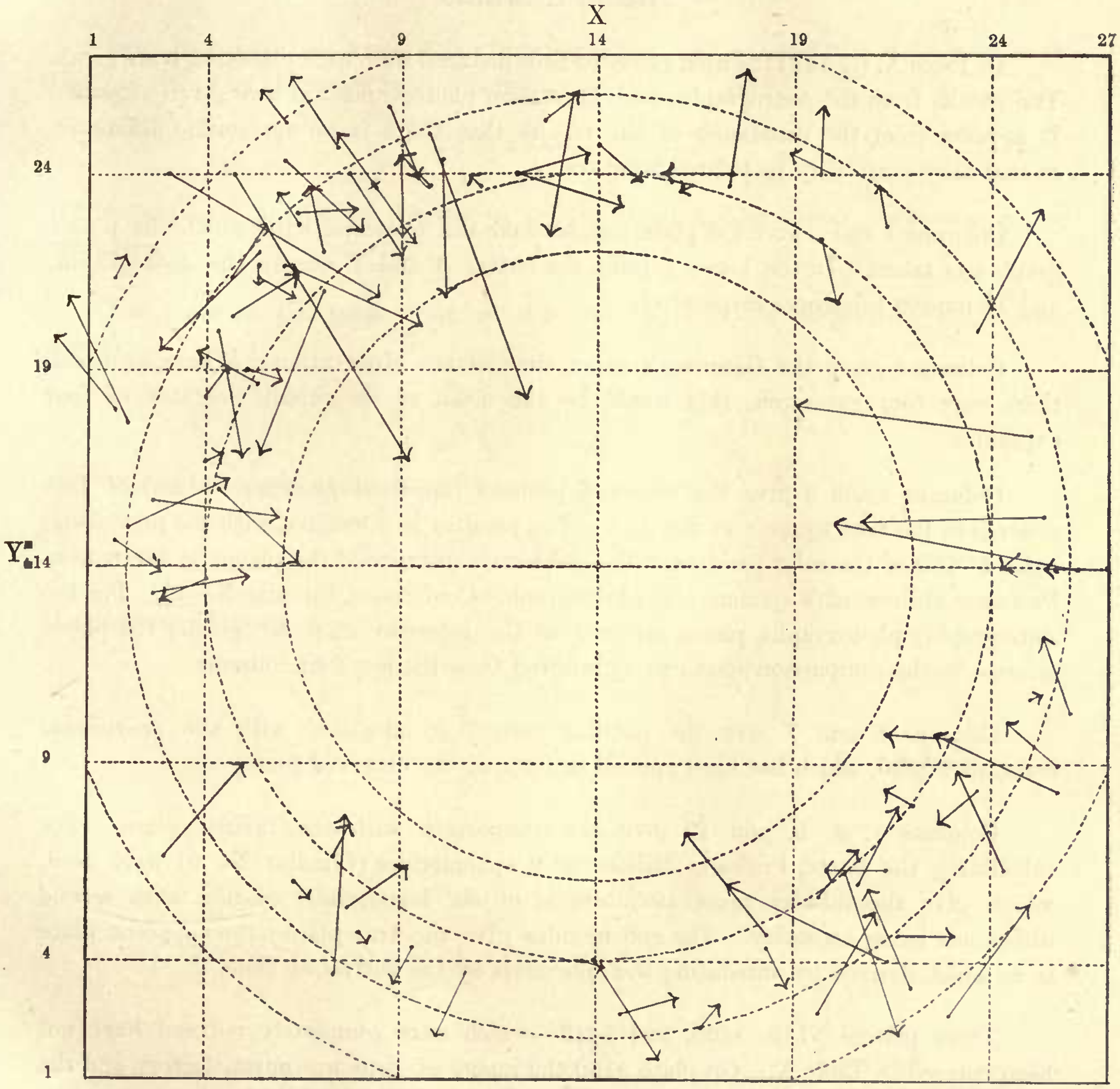


FIG. 10.—Apparent Distortion on Eros Photographs. Amount and direction of distortion indicated by the arrows. Scale 1$^{cm}$ = 0″·2.

## VII. COMPARISON OF OBSERVED PLACES OF EROS WITH THE EPHEMERIS.

In Table X. (p. 148) the final places of Eros deduced from each photograph are given. The results from the Astrographic and Thompson photographs are here given together. It appears from the discussion of the results that there is no systematic difference, so that they may fairly be treated together.

Columns 1 and 2 give the plate number and the telescope with which the photograph was taken. In the latter column the letters A and T denote the Astrographic and Thompson telescopes respectively.

Column 3 gives the Greenwich mean time of the observation. Where, as usual, there were four exposures, this would be the mean of the middle instants of four exposures.

Columns 4 and 5 give the observed position (apparent geocentric place) of Eros referred to the true equinox of the date. The parallax is calculated with the provisional value 8″·800 of the solar parallax. The geocentric distance of the planet is taken from Professor Millosevich's ephemerides (Astrographic Conference, Circular No. 9). For the Astrographic photographs, places referred to the reference stars are given; the places referred to the comparison stars can be inferred from the last four columns.

Columns 6 and 7 give the parallax correction calculated with the provisional constant 8″·800, which has been applied in forming the observed place.

Columns 7, 8, 9, and 10 give the comparison with the tabular place. For calculating the latter, Professor Millosevich's ephemerides (Circular No. 9) were used, which give the tabular place at intervals of six hours, interpolation with second differences being necessary. The ephemerides give the true place; the apparent place is, as usual, derived by antedating the ephemeris by the aberration time.

Three plates—5150, 5408, and 5413—which were completely reduced have not been entered in Table X. On plate 5150 the image of Eros was unsatisfactory and the deduced place badly discordant. Plates 5408 and 5413 were rejected because the trails of the stars were irregular.

It is important to justify the legitimacy of working with the means of four exposures. Two sources of error must be guarded against: the place of Eros at the mean time of the exposures may not be the same as the mean of the places of Eros at the times of the exposures, and the parallax of Eros at the mean time may not be the same as the mean of the parallaxes.

Let $t_1$ $t_2$ $t_3$ $t_4$ be the times of the four exposures, and let the place of Eros (R.A. or Dec.) at time $t$ be expressed by the formula

$$\alpha + \beta t + \tfrac{1}{2}\gamma t^2 + \ \ldots\ldots$$

If $t$ be expressed in units of 6 hours, $\gamma$ will be equal to the *second difference* in the ephemeris.

The place at the mean time of the four exposures is (neglecting third-order terms),

$$\alpha + \beta\left(\frac{t_1+t_2+t_3+t_4}{4}\right) + \tfrac{1}{2}\gamma\left(\frac{t_1+t_2+t_3+t_4}{4}\right)^2,$$

the mean of the places at the times of the four exposures is

$$\alpha + \beta\left(\frac{t_1+t_2+t_3+t_4}{4}\right) + \tfrac{1}{2}\gamma\left(\frac{t_1^2+t_2^2+t_3^2+t_4^2}{4}\right),$$

the difference between these is

$$\tfrac{1}{2}\gamma\left\{\frac{t_1^2+t_2^2+t_3^2+t_4^2}{4} - \left(\frac{t_1+t_2+t_3+t_4}{4}\right)^2\right\}$$

$$= \frac{1}{32}\gamma\left\{(t_3-t_2)^2+(t_1-t_3)^2+(t_2-t_1)^2+(t_4-t_1)^2+(t_4-t_2)^2+(t_4-t_3)^2\right\}$$

$$< \frac{3}{16}\gamma(t_4-t_1)^2.$$

Now for R.A., $\gamma$ is less than $0^s{\cdot}4$ always (and for Dec., $\gamma$ is still less).

∴ the difference is certainly less than $^s{\cdot}0005$ provided

$$(t_4-t_1)^2 < \frac{1}{150};$$

$$i.e. \quad \text{if } t_4 - t_1 < \frac{1}{12}$$

the unit is 6 hours, so that the exposures ought to be completed within about half an hour. This was always fully satisfied ; in fact, the series of exposures rarely occupied more than 15 minutes.

For the parallax in R.A. the limit of time over which the exposures may be extended is much smaller. Let $h$ be the hour-angle at the mean of the exposures, and $t_1\ t_2\ t_3\ t_4$ the times of the exposures measured from that mean.

The parallax in R.A. at the mean time of the exposures, being proportional to the hour angle, $= \pi \sin h$, say, the mean of the parallaxes at the four exposures

$$= \pi \sin h + \pi \cos h \left(\frac{t_1 + t_2 + t_3 + t_4}{4}\right)$$

$$- \tfrac{1}{2}\pi \sin h \left(\frac{t_1^2 + t_2^2 + t_3^2 + t_4^2}{4}\right) + \ \ldots\ .$$

the second term vanishes, since $t_1 + t_2 + t_3 + t_4 = 0$ by definition ; thus the difference between the two modes of estimating the parallax

$$= \tfrac{1}{8}\pi \sin h\ (t_1^2 + t_2^2 + t_3^2 + t_4^2), \text{ approximately.}$$

But $\pi \sin h$ is often as great as $1^{s}{\cdot}7$,

$$\therefore\ t_1^2 + t_2^2 + t_3^2 + t_4^2 \text{ must be } < \frac{1}{425} \text{ if the error is not to be greater than } 0^{s}{\cdot}0005.$$

In general $t_2^2$ and $t_3^2$ will be small, $t_1^2$ and $t_4^2$ (for the extreme exposures) about equal. Thus—

$$t_1^2 \text{ should be less than } \frac{1}{900} \text{ say}$$

$$t_1 < \frac{1}{30}\,;$$

the unit in this case being 1 radian, we must have

$$t_1 < 8 \text{ minutes.}$$

Thus, provided the whole duration of the exposure is not more than 16 minutes, no error of the last figure is introduced. This condition was satisfied, except in one or two isolated cases when the exposures were interrupted by cloud.

In an average series of exposures, viz. $3^{m}$, $3^{m}$, $2^{m}$, $2^{m}$, with one minute interval between each exposure,

$$t_1^2 + t_2^2 + t_3^2 + t_4^2 = {\cdot}0012\,;$$

$\therefore$ the error introduced by taking the mean is

$$\cdot 00015 \times \text{actual parallax.}$$

Thus a systematic error of about $0''\cdot 0015$ is introduced into the deduced value of the solar parallax, the deduced value being too small by this amount.

It has not been considered worth while to apply this correction, as the probable accidental error of the best of the finally deduced values of the parallax is between two and three times as great.

### *Correction of the Ephemeris.*

The determination of the error of the ephemeris, besides being of intrinsic importance, must be undertaken as a preliminary to the discussion of the observed places for the determination of the solar parallax. For the latter purpose groups of two or three days' observations are discussed together, and it is important to be able to determine the change of error of the ephemeris in the interval between the various observations of the group.

In the following tables the mean error of the ephemeris is given for the mean times of groups of plates. The arrangement into groups is generally determined by breaks in the series of observations owing to bad weather, etc. (Where the error of the ephemeris is not a linear function of the time, the error at the mean time is not strictly the same as the mean of the errors at the separate times, but the groups were never sufficiently extended for this difference to be appreciable.) The mean parallax of the group is stated in the last two columns, so that the effect of a change in the adopted value of the solar parallax can be computed if necessary.

The mean parallax of a group, however, is in general small; this is especially true where the conditions were favourable for determining the parallax, the most favourable occasions being when plates were taken on which Eros had large positive and negative parallaxes in about equal numbers.

## TABLE 17.

*Errors of the Ephemerides of Eros from Means of Groups of Photographs.*

Astrographic Photographs.

| Plate Numbers. | No. of Plates. | Mean G.M.T. 1900–1901. | | | Correction to Ephemeris. | | Mean Parallax of Group. | |
|---|---|---|---|---|---|---|---|---|
| | | | | | R.A. | Dec. | R.A. | Dec. |
| | | | d | h | s | " | s | " |
| 5126–5141 | 9 | October | 3 | 4 | − 0·034 | + 1·71 | − 0·79 | + 6·0 |
| 5142–5152 | 6 | | 7 | 18 | − 0·079 | + 1·91 | − 0·69 | + 4·2 |
| 5160–5162 | 3 | | 14 | 19 | − 0·109 | + 1·58 | − 0·43 | + 3·4 |
| 5169–5179 | 8 | | 21 | 4 | − 0·168 | + 1·43 | + 0·07 | + 4·7 |
| 5183–5203 | 14 | | 26 | 23 | − 0·228 | + 1·27 | − 0·24 | + 5·2 |
| 5204–5208 | 5 | | 30 | 3 | − 0·259 | + 1·08 | + 0·31 | + 8·4 |
| 5209–5211 | 3 | November | 7 | 6 | − 0·291 | + 0·62 | + 0·55 | + 10·8 |
| 5212–5229 | 15 | | 10 | 7 | − 0·309 | + 0·51 | − 0·44 | + 4·1 |
| 5230–5243 | 13 | | 14 | 8 | − 0·304 | + 0·20 | − 0·10 | + 6·0 |
| 5248–5250 | 3 | | 18 | 10 | − 0·329 | − 0·12 | − 0·07 | − 0·9 |
| | | | | | | | | |
| 5253–5264 | 11 | November | 22 | 19 | − 0·329 | − 0·13 | + 0·23 | + 5·8 |
| 5267–5269 | 3 | | 25 | 8 | − 0·323 | − 0·39 | − 0·51 | + 0·4 |
| 5270–5275 | 6 | | 27 | 15 | − 0·298 | − 0·46 | − 0·70 | + 0·5 |
| 5276–5283 | 6 | December | 6 | 23 | − 0·276 | − 0·91 | − 1·02 | + 8·7 |
| 5285–5287 | 3 | | 9 | 16 | − 0·270 | − 0·66 | + 0·03 | + 5·3 |
| 5288–5297 | 5 | | 13 | 9 | − 0·266 | − 0·90 | + 0·46 | + 7·0 |
| 5299–5313 | 9 | | 16 | 3 | − 0·255 | − 0·77 | − 0·03 | + 7·7 |
| 5314–5329 | 10 | | 20 | 3 | − 0·242 | − 0·72 | + 0·76 | + 10·1 |
| 5331–5338 | 7 | | 28 | 10 | − 0·210 | − 1·01 | + 0·82 | + 9·2 |
| 5341–5348 | 8 | January | 5 | 0 | − 0·193 | − 0·98 | + 0·46 | + 10·4 |
| | | | | | | | | |
| 5349–5356 | 8 | January | 8 | 21 | + 0·025 | + 1·40 | + 0·65 | + 12·3 |
| 5359–5372 | 8 | | 14 | 18 | + 0·005 | + 1·09 | + 0·89 | + 14·4 |
| 5394–5398 | 3 | February | 2 | 18 | + 0·015 | − 0·11 | + 0·81 | + 14·5 |
| 5409–5427 | 10 | | 12 | 15 | + 0·015 | − 0·82 | + 0·35 | + 13·3 |
| 5428–5434 | 5 | | 15 | 10 | + 0·026 | − 0·98 | + 0·34 | + 13·2 |
| 5436–5441 | 3 | | 20 | 8 | + 0·059 | − 1·27 | + 0·38 | + 13·2 |

## TABLE 18.

*Errors of the Ephemerides of Eros from Means of Groups of Photographs.*

Thompson Photographs.

| Plate Numbers. | No. of Plates. | Mean G.M.T. 1900–1901. | | | Correction to Ephemeris. | | Mean Parallax of Group. | |
|---|---|---|---|---|---|---|---|---|
| | | | | | R.A. | Dec. | R.A. | Dec. |
| | | | d | h | | | s | |
| 744–755 | 11 | October | 3 | 9 | − ·033 | + 1·81 | − 0·80 | + 6·9 |
| 756–761 | 5 | | 8 | 0 | − ·079 | + 1·84 | − 0·76 | + 6·0 |
| 762–764 | 3 | | 9 | 23 | − ·109 | + 1·80 | − 1·03 | + 10·6 |
| 766–771 | 3 | | 14 | 4 | − ·120 | + 1·67 | − 0·26 | + 0·8 |
| 778–783 | 3 | | 21 | 0 | − ·166 | + 1·42 | − 0·96 | + 5·3 |
| 787–799 | 13 | | 26 | 22 | − ·232 | + 1·23 | − 0·11 | + 4·7 |
| 800–803 | 4 | | 29 | 3 | − ·250 | + 1·14 | − 0·77 | + 7·8 |
| 804–807 | 3 | November | 7 | 18 | − ·296 | + 0·69 | 0·00 | + 2·7 |
| 811–812 | 2 | | 10 | 17 | − ·307 | + 0·46 | + 1·66 | + 12·3 |
| 817–823 | 7 | | 14 | 3 | − ·311 | + 0·23 | − 0·24 | + 6·5 |
| 844–847 | 4 | | 27 | 7 | − ·309 | − 0·43 | − 0·45 | + 3·9 |
| 848–854 | 7 | December | 7 | 2 | − ·283 | − 0·86 | + 1·36 | + 10·7 |
| 855–856 | 2 | | 10 | 6 | − ·273 | − 0·68 | − 0·86 | + 3·7 |
| 858–861 | 4 | | 13 | 8 | − ·261 | − 0·83 | + 0·09 | + 5·8 |
| 863–871 | 9 | | 16 | 0 | − ·260 | − 0·79 | 0·00 | + 7·7 |
| 872–882 | 11 | | 20 | 7 | − ·245 | − 0·68 | + 0·42 | + 10·0 |
| 883–887 | 5 | | 27 | 18 | − ·221 | − 0·96 | + 0·43 | + 7·3 |
| 889–890 | 2 | January | 2 | 13 | − ·221 | − 0·88 | + 1·47 | + 15·4 |
| 891–898 | 7 | | 5 | 2 | − ·180 | − 1·12 | + 0·67 | + 12·1 |
| 899–901 | 3 | | 9 | 6 | + ·006 | + 1·30 | − 0·21 | + 8·1 |
| 904–914 | 10 | | 14 | 23 | + ·018 | + 1·03 | + 0·50 | + 12·7 |
| 915–920 | 5 | | 18 | 3 | + ·006 | + 0·78 | + 0·40 | + 11·5 |
| 921–926 | 4 | | 23 | 10 | + ·013 | + 0·55 | + 0·84 | + 13·1 |
| 927–930 | 3 | | 29 | 0 | + ·006 | + 0·05 | + 0·47 | + 12·8 |
| 931–935 | 4 | February | 2 | 10 | + ·022 | − 0·14 | + 0·80 | + 14·3 |
| 936–940 | 5 | | 5 | 23 | + ·007 | − 0·41 | + 0·37 | + 13·2 |
| 941–949 | 9 | | 11 | 22 | + ·015 | − 0·76 | + 0·39 | + 13·3 |
| 952–955 | 3 | | 16 | 10 | + ·004 | − 1·12 | + 0·76 | + 14·1 |
| 958–959 | 2 | | 20 | 8 | + ·032 | − 1·34 | + 0·26 | + 12·9 |

## TABLE 19.

### *Errors of the Ephemerides of Eros from Mean of Groups of Photographs.*

Astrographic and Thompson Photographs Combined.

| Astrographic Plate Numbers. | No. of Plates. | Thompson Plate Numbers. | No. of Plates. | Mean G.M.T. 1900–1901. | | | Correction to Ephemeris. | |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | R.A. | Dec. |
| | | | | | d | h | s | ″ |
| 5126–5141 | 9 | 744–755 | 11 | October | 3 | 7 | − ·033 | + 1·78 |
| 5142–5152 | 6 | 756–761 | 5 | | 7 | 22 | − ·079 | + 1·86 |
| ... | ... | 762–764 | 3 | | 9 | 23 | − ·109 | + 1·80 |
| 5160–5162 | 3 | 766–771 | 3 | | 14 | 10 | − ·116 | + 1·64 |
| 5169–5179 | 8 | 778–783 | 3 | | 21 | 2 | − ·168 | + 1·43 |
| 5183–5203 | 14 | 787–799 | 13 | | 26 | 22 | − ·230 | + 1·25 |
| 5204–5208 | 5 | 800–803 | 4 | | 29 | 13 | − ·254 | + 1·11 |
| 5209–5211 | 3 | 804–807 | 3 | November | 7 | 14 | − ·294 | + 0·66 |
| 5212–5229 | 15 | 811–812 | 2 | | 10 | 9 | − ·308 | + 0·50 |
| 5230–5243 | 13 | 817–823 | 7 | | 14 | 5 | − ·307 | + 0·20 |
| 5248–5250 | 3 | ... | ... | | 18 | 10 | − ·329 | − 0·12 |
| 5253–5264 | 11 | ... | ... | | 22 | 19 | − ·329 | − 0·13 |
| 5267–5269 | 3 | ... | ... | | 25 | 8 | − ·323 | − 0·39 |
| 5270–5275 | 6 | 844–847 | 4 | | 27 | 11 | − ·303 | − 0·44 |
| 5276–5283 | 6 | 848–854 | 7 | December | 7 | 1 | − ·280 | − 0·88 |
| 5285–5287 | 3 | 855–856 | 2 | | 9 | 23 | − ·271 | − 0·67 |
| 5288–5297 | 5 | 858–861 | 4 | | 13 | 8 | − ·263 | − 0·86 |
| 5299–5313 | 9 | 863–871 | 9 | | 16 | 1 | − ·258 | − 0·78 |
| 5314–5329 | 10 | 872–882 | 11 | | 20 | 6 | − ·244 | − 0·69 |
| 5331–5338 | 7 | 883–887 | 5 | | 28 | 1 | − ·216 | − 0·98 |
| .. | ... | 889–890 | 2 | January | 2 | 13 | − ·221 | − 0·88 |
| 5341–5348 | 8 | 881–898 | 7 | | 5 | 1 | − ·185 | − 1·06 |
| 5349–5356 | 8 | 899–901 | 3 | | 9 | 0 | + ·018 | + 1·36 |
| 5359–5372 | 8 | 904–914 | 10 | | 14 | 21 | + ·014 | + 1·05 |
| ... | ... | 915–920 | 5 | | 18 | 3 | + ·006 | + 0·78 |
| ... | ... | 921–926 | 4 | | 23 | 10 | + ·013 | + 0·55 |
| ... | ... | 927–930 | 3 | | 29 | 0 | + ·006 | + 0·05 |
| 5394–5398 | 3 | 931–935 | 4 | February | 2 | 13 | + ·019 | − 0·13 |
| ... | ... | 936–940 | 5 | | 5 | 23 | + ·007 | − 0·41 |
| 5409–5427 | 10 | 941–949 | 9 | | 12 | 5 | + ·015 | − 0·78 |
| 5428–5434 | 5 | 952–955 | 3 | | 15 | 22 | + ·015 | − 1·05 |
| 5436–5441 | 3 | 958–959 | 2 | | 20 | 8 | + ·044 | − 1·31 |

In combining the results from Astrographic and Thompson plates, weight 3 has been given to an Astrographic plate and weight 5 to a Thompson plate. These weights were derived from a preliminary discussion of the discordances among themselves of the positions of Eros deduced from the two sets of photographs, allowance being made where necessary for the change of error of the ephemeris. This discussion (revised by taking account of the supplementary division errors, which were not available when the preliminary discussion was made and the weights 5 : 3 adopted) is given in Table 20.

### TABLE 20.

### *Mean Accidental Error of a Place of Eros.*

Mean Discordances between a position of Eros deduced from one plate and the mean of the group.

| Date. | Astrographic. | | | | | Thompson. | | |
|---|---|---|---|---|---|---|---|---|
| | No. of Plates. | Reference Stars. | | Comparison Stars. | | No. of Plates. | R.A. | Decl. |
| | | R.A. | Decl. | R.A. | Decl. | | | |
| October 26–27 | 14 | ±″·103 | ±″·095 | ±″·107 | ±″·081 | 13 | ±″·059 | ±″·039 |
| December 15–17 | 9 | ·104 | ·084 | ·096 | ·083 | 9 | ·066 | ·102 |
| December 19–21 | 10 | ·114 | ·100 | ·107 | ·120 | 11 | ·120 | ·084 |
| February 11–13 | 10 | (·172) | ·100 | (·200) | ·080 | 9 | ·076 | ·080 |
| Mean Discordance | ... | ±·107 | ±·095 | ±·103 | ±·091 | ... | ±·080 | ±·076 |

From these discordances, weight of Thompson Photograph : weight of Astrographic Photograph (comparison stars)

= 1·66 : 1 from Right Ascensions.
= 1·43 : 1 from Declinations.

The above include discordances due to erroneous places of Reference Stars, since the groups extend over two or three days. If the groups were limited to a single day the discordances would be much smaller.

The places of Eros given in Table 19 were plotted and a smooth curve drawn through them. From this is derived the following table, giving the error of the ephemeris and the daily rate of change of error.

## TABLE 21.

### *Error of Ephemeris.*

### Right Ascension.

| Ephemeris A. | | | Ephemeris B. | | | Ephemeris C. | | |
|---|---|---|---|---|---|---|---|---|
| Date. (noon). | Correction to Ephemeris. | Rate of Change per day. | Date. (noon). | Correction to Ephemeris. | Rate of Change per day. | Date. (noon). | Correction to Ephemeris. | Rate of Change per day. |
| 1900. | s | s | 1900–01. | s | s | 1901. | s | s |
| Oct. 2 | − ·022 | − ·010 | Nov. 22 | − ·322 | + ·003 | Jan. 8 | + ·018 | − ·001 |
| 5 | − ·051 | − ·009 | 25 | − ·314 | + ·003 | 11 | + ·014 | − ·001 |
| 8 | − ·077 | − ·007 | 28 | − ·305 | + ·003 | 14 | + ·012 | ·000 |
| 11 | − ·099 | − ·006 | Dec. 1 | − ·296 | + ·003 | 17 | + ·012 | ·000 |
| 14 | − ·117 | − ·007 | 4 | − ·288 | + ·003 | 20 | + ·012 | ·000 |
| 17 | − ·137 | − ·008 | 7 | − ·279 | + ·002 | 23 | + ·012 | ·000 |
| 20 | − ·160 | − ·009 | 10 | − ·272 | + ·003 | 26 | + ·012 | ·000 |
| 23 | − ·188 | − ·011 | 13 | − ·264 | + ·003 | 29 | + ·013 | ·000 |
| 26 | − ·220 | − ·009 | 16 | − ·256 | + ·003 | Feb. 1 | + ·013 | ·000 |
| 29 | − ·248 | − ·007 | 19 | − ·247 | + ·003 | 4 | + ·013 | ·000 |
| Nov. 1 | − ·269 | − ·005 | 22 | − ·238 | + ·004 | 7 | + ·013 | ·000 |
| 4 | − ·285 | − ·004 | 25 | − ·227 | + ·004 | 10 | + ·014 | ·000 |
| 7 | − ·296 | − ·002 | 28 | − ·216 | + ·004 | 13 | + ·015 | + ·001 |
| 10 | − ·303 | − ·002 | 31 | − ·205 | + ·004 | 16 | + ·019 | + ·003 |
| 13 | − ·308 | − ·001 | Jan. 3 | − ·193 | + ·004 | 19 | + ·027 | + ·003 |
| 16 | − ·310 | | 6 | − ·182 | | 22 | + ·036 | |

### Declination.

| Ephemeris A. | | | Ephemeris B. | | | Ephemeris C. | | |
|---|---|---|---|---|---|---|---|---|
| Date. (noon). | Correction to Ephemeris. | Rate of Change per day. | Date. (noon). | Correction to Ephemeris. | Rate of Change per day. | Date. (noon). | Correction to Ephemeris. | Rate of Change per day. |
| 1900. | ″ | ″ | 1900–01. | ″ | ″ | 1901. | ″ | ″ |
| Oct. 2 | + 1·77 | + ·02 | Nov. 22 | − 0·12 | − ·06 | Jan. 8 | + 1·41 | − ·05 |
| 5 | + 1·82 | + ·01 | 25 | − 0·30 | − ·06 | 11 | + 1·26 | − ·05 |
| 8 | + 1·85 | − ·02 | 28 | − 0·48 | − ·05 | 14 | + 1·08 | − ·06 |
| 11 | + 1·79 | − ·04 | Dec. 1 | − 0·64 | − ·04 | 17 | + 0·90 | − ·06 |
| 14 | + 1·66 | − ·04 | 4 | − 0·76 | − ·03 | 20 | + 0·71 | − ·06 |
| 17 | + 1·55 | − ·03 | 7 | − 0·85 | − ·01 | 23 | + 0·52 | − ·07 |
| 20 | + 1·46 | − ·03 | 10 | − 0·87 | + ·01 | 26 | + 0·31 | − ·06 |
| 23 | + 1·37 | − ·03 | 13 | − 0·85 | + ·02 | 29 | + 0·12 | − ·06 |
| 26 | + 1·28 | − ·04 | 16 | − 0·79 | + ·02 | Feb. 1 | − 0·07 | − ·06 |
| 29 | + 1·15 | − ·05 | 19 | − 0·72 | − ·01 | 4 | − 0·24 | − ·07 |
| Nov. 1 | + 1·00 | − ·05 | 22 | − 0·75 | − ·03 | 7 | − 0·45 | − ·07 |
| 4 | + 0·85 | − ·05 | 25 | − 0·85 | − ·03 | 10 | − 0·65 | − ·07 |
| 7 | + 0·69 | − ·06 | 28 | − 0·95 | − ·02 | 13 | − 0·85 | − ·06 |
| 10 | + 0·52 | − ·07 | 31 | − 1·01 | − ·01 | 16 | − 1·04 | − ·06 |
| 13 | + 0·30 | − ·08 | Jan. 3 | − 1·04 | ·00 | 19 | − 1·22 | − ·05 |
| 16 | + 0·07 | | 6 | − 1·04 | | 22 | − 1·38 | |

These errors were examined with a view to detecting a monthly periodicity depending on the lunar parallactic inequality, and thus deducing a correction to the adopted mass of the Moon. A small wave having a period of about a month is noticeable in the Right Ascensions compared with ephemeris A, but it is not supported by the comparisons during the later part of the opposition.

## VIII. DETERMINATION OF THE SOLAR PARALLAX.

The residuals of Eros (observed place—tabular place), which are given in the last four columns of Table X., may be regarded as made up of three parts, due respectively to the error of the ephemeris, the error in the adopted parallax, and the accidental error of the plate. The error in the parallax is to be determined by comparing observations made at different hour-angles; it is necessary in making this comparison to allow for the change in the error of the ephemeris during the interval between the observations. For this the rate of change of error of the ephemeris given in Table 21 was applied in order to reduce to a common epoch the various observations compared.

The accuracy with which the rate of change of error of the ephemeris is required depends on the extent of the groups of plates which are discussed together for the solar parallax. For the finally deduced values of the parallax these groups never extended over a longer period than from one day to the next. The rate of change was thus only applied to reduce plates taken at most forty hours apart to a common epoch. But, as appears from Table 19, the rate of change of error of the ephemeris was generally derived by comparing the mean places about five days apart, so that an error in determining the change of error of the ephemeris in five days will affect in a much smaller degree the reduction to a common epoch of plates, extending over a little more than a day.* Further, any residual error from this cause can only affect accidentally the solar parallax deduced from the mean of a large number of groups of plates.

The extent of a group of plates which can be profitably compared together is limited by a different consideration, viz. the large accidental errors introduced by erroneous places of the stars to which Eros was referred. The same reference and comparison stars were used throughout each night, so that, in deducing the parallax from comparisons between photographs taken on an evening and on the following morning, errors in the star-places are eliminated; but in all other comparisons some of the stars used are different for the two groups of plates, and the longer the interval, the weaker the connection between the star-places.

---

* The possibility of solving each group of observations independently by least squares, retaining the change of error of ephemeris as one of the unknowns, was considered, but the above method seems preferable both in theory and practical simplicity. There is a very close analogy between the problem of determining the change of error of the ephemeris for reducing short groups of observations and that of determining the clock rate for reducing short groups of meridian observations.

## RIGHT ASCENSIONS.

In the following tables the results of comparisons in Right Ascensions for the determination of the solar parallax are given for (1) Astrographic photographs, reference stars; (2) Astrographic photographs, comparison stars; (3) Thompson photographs, comparison stars; (4) Astrographic and Thompson photographs treated together, comparison stars.

The weight is derived from the formula—

$$\frac{1}{10}\frac{mn}{m+n}(\delta\pi)^2,$$

where $m$ and $n$ are the numbers of plates compared,

and $\delta\pi$ = the difference of parallax of Eros in seconds of arc between the two groups compared.

Thus weight 30 corresponds to a comparison between two plates under fairly favourable conditions, viz. with a difference of parallax of Eros of nearly 25″ between the two plates.

Care has been taken either to avoid using the same plates in different comparisons, or, where the same group has been compared with a preceding and succeeding group of plates, to give half weight to it in each comparison. For example, on October 26 and 27 there were four groups of plates to be compared.

*a*. October 26, evening.
*b*. October 26, morning.
*c*. October 27, evening.
*d*. October 27, morning.

At first sight the most natural process is to obtain values of the solar parallax by comparing *a* and *b*, *b* and *c*, *c* and *d*; but if this is done, *b* and *c* are used twice over, and consequently double weight is given to them. Again, the comparison between *a* and *d* is also equally favourable for determining parallax; but evidently the mean parallax determined from *b* and *c* and from *a* and *d* simply reproduces the mean from *a* and *b* and *c* and *d*. Accordingly, in such a case only the comparisons *a* and *b*, *c* and *d* have been utilised.

## TABLE 22.

### *Determination of the Solar Parallax from Right Ascensions of Eros.*

### Astrographic Photographs—Reference Stars.

| Date. | | No. of Plates compared. | Approximate Difference of Parallax. | Weight. | Correction to Solar Parallax 8″·800. | Correction to Parallax × Weight. |
|---|---|---|---|---|---|---|
| 1900. | | | ″ | | ″ | ″ |
| October | 14–15 | 2, 1 | 11 | 8 | − ·040 | − 0·32 |
| | 20 | 2, 1 | 13 | 11 | + ·038 | + 0·42 |
| | 21 | 2, 2 | 24 | 58 | − ·021 | − 1·22 |
| | 26 | 3, 2 | 25 | 75 | − ·003 | − 0·23 |
| | 27 | 3, 2 | 25 | 75 | + ·022 | + 1·65 |
| | 28–29 | 1, 2* | 26 | 34 | + ·015 | + 0·51 |
| | 29–31 | 2*, 2 | 27 | 49 | + ·051 | + 2·50 |
| November | 6–7 | 1, 2 | 28 | 52 | − ·036 | − 1·87 |
| | 9 | 2, 3 | 26 | 81 | − ·009 | − 0·73 |
| | 10 | 3, 2 | 15 | 27 | + ·016 | + 0·43 |
| | 11 | 3, 1 | 11 | 9 | + ·007 | + 0·06 |
| | 13 | 3, 3 | 28 | 117 | − ·028 | − 3·28 |
| | 14–15 | 2, 3* | 25 | 53 | − ·025 | − 1·32 |
| | 15 | 3*, 2 | 10 | 9 | + ·062 | + 0·56 |
| | 22 | 2, 5 | 27 | 105 | − ·018 | − 1·89 |
| | 23 | 2, 2 | 13 | 17 | + ·042 | + 0·71 |
| | 25–27 | 2, 3* | 10 | 9 | + ·164 | + 1·48 |
| | 27 | 3*, 2 | 12 | 12 | + ·061 | + 0·73 |
| December | 6–7 | 3, 1 | 17 | 22 | + ·049 | + 1·08 |
| | 7–9 | 1, 1* | 29 | 28 | − ·030 | − 0·84 |
| | 9 | 1*, 1 | 27 | 24 | + ·017 | + 0·41 |
| | 13 | 3, 2 | 20 | 48 | − ·032 | − 1·54 |
| | 15 | 2, 3* | 27 | 62 | − ·041 | − 2·54 |
| | 15–16 | 3*, 1 | 27 | 44 | − ·010 | − 0·44 |
| | 19 | 2, 2 | 25 | 62 | − ·080 | − 4·96 |
| | 28–29 | 2, 2 | 13 | 17 | + ·032 | + 0·54 |
| 1901. | | | | | | |
| January | 5 | 2, 3 | 11 | 14 | ·000 | 0·00 |
| | 8 | 1, 3 | 21 | 33 | − ·040 | − 1·32 |
| | 9 | 1, 1 | 24 | 29 | + ·027 | + 0·78 |
| | 14–15 | 3, 2* | 21 | 33 | − ·021 | − 0·69 |
| | 15 | 2*, 2 | 21 | 29 | + ·127 | + 3·68 |

| | |
|---|---|
| Mean correction to solar parallax | −″·006 ± ″·0049 |
| Total number of plates used | 117 |
| Total weight | 1246 |

* These plates, having been compared both with preceding and succeeding observations, are given half-weight in each comparison.

## TABLE 23.

*Determination of the Solar Parallax from Right Ascensions of Eros* (contd.).

Astrographic Photographs—Comparison Stars.

| Date. | | No. of Plates compared. | Approximate Difference of Parallax. | Weight. | Correction to Solar Parallax 8″·800. | Correction to Parallax × Weight. |
|---|---|---|---|---|---|---|
| 1900. | | | ″ | | ″ | ″ |
| October | 14–15 . . | 2, 1 | 11 | 8 | − ·119 | − 0·95 |
| | 20 . . | 2, 1 | 13 | 11 | + ·108 | + 1·19 |
| | 21 . . | 2, 2 | 24 | 58 | + ·028 | + 1·62 |
| | 26 . . | 3, 2 | 25 | 75 | + ·022 | + 1·65 |
| | 27 . . | 3, 2 | 25 | 75 | + ·044 | + 3·30 |
| | 28–29 . . | 1, 2* | 26 | 34 | ·000 | 0·00 |
| | 29–31 . . | 2*, 2 | 27 | 49 | + ·047 | + 2·30 |
| November | 6–7 . . | 1, 2 | 28 | 52 | − ·017 | − 0·88 |
| | 9 . . | 2, 3 | 26 | 81 | + ·039 | + 3·16 |
| | 10 . . | 3, 2 | 15 | 27 | + ·032 | + 0·86 |
| | 11 . . | 3, 1 | 11 | 9 | + ·091 | + 0·82 |
| | 13 . . | 3, 3 | 28 | 117 | − ·003 | − 0·35 |
| | 14–15 . . | 2, 3* | 25 | 53 | − ·022 | − 1·17 |
| | 15 . . | 3*, 2 | 10 | 9 | + ·070 | + 0·63 |
| | 22 . . | 2, 5 | 27 | 105 | + ·009 | + 0·95 |
| | 23 . . | 2, 2 | 13 | 17 | − ·006 | − 0·10 |
| | 25–27 . . | 2, 3* | 10 | 9 | + ·102 | + 0·92 |
| | 27 . . | 3*, 2 | 12 | 12 | + ·014 | + 0·17 |
| December | 6–7 . . | 3, 1 | 17 | 22 | + ·054 | + 1·19 |
| | 7–9 . . | 1, 1* | 29 | 28 | + ·015 | + 0·42 |
| | 9 . . | 1*, 1 | 27 | 24 | + ·039 | + 0·94 |
| | 13 . . | 3, 2 | 20 | 48 | − ·041 | − 1·97 |
| | 15 . . | 2, 3* | 27 | 62 | − ·075 | − 4·65 |
| | 15–16 . . | 3*, 1 | 27 | 44 | + ·004 | + 0·18 |
| | 19 . . | 2, 2 | 25 | 62 | − ·050 | − 3·10 |
| | 28–29 . . | 2, 2 | 13 | 17 | + ·040 | + 0·68 |
| 1901. | | | | | | |
| January | 5 . . | 2, 3 | 11 | 14 | + ·037 | + 0·51 |
| | 8 . . | 1, 3 | 21 | 33 | − ·030 | − 0·99 |
| | 9 . . | 1, 1 | 24 | 29 | − ·005 | − 0·14 |
| | 14–15 . . | 3, 2* | 21 | 33 | + ·005 | + 0·16 |
| | 15 . . | 2*, 2 | 21 | 29 | + ·149 | + 4·32 |

| | |
|---|---|
| Mean correction to solar parallax . . . . . . | +″·009 ± ″·0052 |
| Total number of plates used . . . . . . . . . . | 117 |
| Total weight . . . . . . . . . . . . . . | 1246 |

* These plates, having been compared both with preceding and succeeding observations, are given half-weight in each comparison.

## TABLE 24.

### *Determination of the Solar Parallax from Right Ascensions of Eros* (contd).

### Thompson Photographs—Comparison Stars.

| Date. | | No. of Plates compared. | Approximate Difference of Parallax. | Weight. | Correction to Solar Parallax 8″·800. | Correction to Parallax × Weight. |
|---|---|---|---|---|---|---|
| 1900. | | | ″ | | ″ | ″ |
| October | 20–21 | 1, 2 | 9 | 5 | − ·100 | − 0·50 |
| | 26 | 3, 2 | 25 | 75 | ·000 | 0·00 |
| | 27 | 2, 2 | 25 | 62 | + ·028 | + 1·76 |
| | 28–29 | 1, 3 | 26 | 51 | − ·015 | − 0·76 |
| November | 6–8 | 1, 2 | 21 | 29 | − ·052 | − 1·51 |
| | 10–13 | 2, 2* | 28 | 52 | + ·008 | + 0·42 |
| | 13 | 2,* 2 | 29 | 56 | − ·022 | − 1·23 |
| | 14–15 | 1, 2 | 22 | 32 | − ·141 | − 4·51 |
| | 27 | 2, 2 | 18 | 32 | − ·022 | − 0·70 |
| December | 6–7 | 3, 2 | 15 | 27 | + ·087 | + 2·35 |
| | 7–10 | 2, 2 | 26 | 68 | + ·007 | + 0·48 |
| | 13 | 3, 1 | 21 | 33 | − ·047 | − 1·55 |
| | 15 | 3, 3 | 24 | 86 | + ·019 | + 1·63 |
| | 19 | 3, 3 | 26 | 98 | + ·037 | + 3·63 |
| | 21 | 2, 3 | 26 | 81 | + ·051 | + 4·13 |
| | 28 | 1, 1* | 8 | 2 | + ·087 | + 0·17 |
| | 28–29 | 1*, 1 | 12 | 5 | + ·025 | + 0·12 |
| 1901. | | | | | | |
| January | 2–4 | 2, 2 | 21 | 44 | + ·025 | + 1·10 |
| | 5 | 2, 3 | 10 | 12 | − ·053 | − 0·64 |
| | 14 | 2, 2 | 23 | 53 | − ·030 | − 1·59 |
| | 15 | 3, 3 | 19 | 54 | − ·047 | − 2·54 |
| | 17–18 | 2, 3 | 16 | (31) | (+ ·277) | (+ 8·59) |

| | |
|---|---|
| Mean correction to solar parallax . . . . . | ″·000 ± ″·0063 |
| Total number of plates used (excluding January 17–18) . . | 84 |
| Total weight . . . . . . . . . . . . . . . . | 957 |

---

* These plates, having been compared both with preceding and succeeding observations, are given half-weight in each comparison.

## TABLE 25.

*Determination of the Solar Parallax from Right Ascensions of Eros* (contd.).

Combined Discussion of Astrographic and Thompson Photographs.

Comparison Stars.

| Date. | | No. of Plates compared. | Approximate Difference of Parallax. | Weight. | Correction to Solar Parallax 8″·800. | Correction to Parallax × Weight. |
|---|---|---|---|---|---|---|
| 1900. | | | ″ | | ″ | ″ |
| October | 14–15 | 4, 1 | 10 | 8 | − ·045 | − 0·36 |
| | 20 | 3, 1 | 13 | 13 | + ·117 | + 1·52 |
| | 21 | 4, 2 | 23 | 70 | + ·007 | + 0·49 |
| | 26 | 6, 4 | 25 | 150 | + ·006 | + 0·90 |
| | 27 | 5, 4 | 25 | 139 | + ·038 | + 5·28 |
| | 28–29 | 2, 5 | 26 | 97 | − ·009 | − 0·87 |
| November | 8–9 | 2, 2 | 19 | 36 | − ·012 | − 0·43 |
| | 9–10 | 3, 3 | 27 | 109 | + ·012 | + 1·31 |
| | 10–11 | 2, 3 | 27 | 88 | + ·012 | + 1·06 |
| | 13 | 5, 5 | 28 | 196 | − ·011 | − 2·16 |
| | 14–15 | 3, 5 | 24 | 108 | − ·067 | − 7·24 |
| | 22–23 | 4, 5 | 28 | 174 | + ·009 | + 1·57 |
| | 27 | 5, 4 | 15 | 50 | − ·005 | − 0·25 |
| December | 6–7 | 9, 3 | 16 | 58 | + ·054 | + 3·13 |
| | 9–10 | 3, 1 | 25 | 47 | + ·011 | + 0·52 |
| | 13 | 6, 3 | 21 | 88 | − ·044 | − 3·87 |
| | 15–16 | 6, 6 | 26 | 203 | − ·018 | − 3·65 |
| | 19 | 5, 5 | 25 | 156 | + ·003 | + 0·47 |
| | 21 | 2, 6 | 27 | 109 | + ·033 | + 3·60 |
| | 28–29 | 3, 3 | 12 | 22 | + ·033 | + 0·73 |
| 1901. | | | | | | |
| January | 5 | 4, 6 | 12 | 35 | ·000 | 0·00 |
| | 8–9 | 7, 4 | 18 | 82 | − ·082 | − 6·72 |
| | 13–14 | 6, 2 | 22 | 73 | + ·030 | + 2·19 |
| | 15 | 5, 5 | 20 | 100 | + ·034 | + 3·40 |
| | 17–18 | 2, 3 | 16 | (31) | (+ ·277) | (+ 8·59) |

| | |
|---|---|
| Mean correction to solar parallax | ″·000 ± ″·0044 |
| Total number of plates used | 192 |
| Total weight | 2211 |

The good agreement between the results derived from the Astrographic and Thompson photographs (Comparison Stars) and the fact that the same star-places were used for the two series seemed to justify the combined discussion of the results regarding the two sets of places as homogeneous, and this is given in the last of the foregoing tables. There is considerable gain in treating them together, as the two instruments had supplemented one another considerably. In this discussion comparisons between groups of observations with an interval of more than a day were rigorously excluded; thus, although the theoretical weight of this determination happens not to be appreciably greater than the sum of the weights of the two separate determinations, the comparisons were made under more favourable and satisfactory conditions. The resulting value of the parallax 8″·800 ± ″·0044 must be regarded as the principal conclusion of the whole investigation.

Without much loss of material the discussion could be rearranged, so that comparisons were only made between the evening and following morning observations. A very considerable reduction in the probable error (inferred from the discordances) took place notwithstanding the loss of material, owing to the elimination of erroneous star-places. A comparison was also made between the morning and following evening observations, the probable error in this case being more than twice as great

The results are as follows :—

## TABLE 26.

### *Astrographic and Thompson photographs—Comparison Stars.*

### Evening to Morning Comparisons.

| Date. | | No. of Plates compared. | Approximate Difference of Parallax. | Weight. | Correction to Solar Parallax 8″·800. | Correction to Parallax × Weight. |
|---|---|---|---|---|---|---|
| 1900. | | | | | | |
| October | 8 | 3, 2 | 7″ | 5 | + ″·096 | + 0″·48 |
| | 20 | 3, 1 | 13 | 13 | + ·117 | + 1·52 |
| | 21 | 4, 2 | 23 | 70 | + ·007 | + 0·49 |
| | 26 | 6, 4 | 25 | 150 | + ·006 | + 0·90 |
| | 27 | 5, 4 | 25 | 139 | + ·038 | + 5·28 |
| November | 9 | 2, 3 | 26 | 81 | + ·039 | + 3·16 |
| | 10 | 3, 2 | 28 | 94 | − ·008 | − 0·75 |
| | 11 | 3, 1 | 11 | 8 | + ·091 | + 0·73 |
| | 13 | 5, 5 | 28 | 196 | − ·011 | − 2·16 |
| | 15 | 5, 2 | 10 | 14 | − ·015 | − 0·21 |
| | 22 | 2, 5 | 28 | 112 | + ·009 | + 1·01 |
| | 23 | 2, 2 | 14 | 21 | − ·011 | − 0·23 |
| | 27 | 5, 4 | 15 | 50 | − ·005 | − 0·25 |
| December | 7 | 3, 3 | 16 | 38 | + ·021 | + 0·80 |
| | 9 | 1, 1 | 25 | 36 | + ·033 | + 1·19 |
| | 13 | 6, 3 | 21 | 88 | − ·044 | − 3·87 |
| | 15 | 5, 6 | 26 | 185 | − ·025 | − 4·62 |
| | 17 | 4, 1 | 8 | 5 | + ·045 | + 0·22 |
| | 19 | 5, 5 | 25 | 156 | + ·003 | + 0·47 |
| | 21 | 2, 6 | 27 | 109 | + ·033 | + 3·60 |
| | 28 | 3, 3 | 9 | 12 | + ·127 | + 1·52 |
| 1901. | | | | | | |
| January | 5 | 4, 6 | 12 | 35 | ·000 | 0·00 |
| | 8 | 1, 3 | 22 | 36 | − ·030 | − 1·08 |
| | 9 | 6, 1 | 18 | 28 | − ·018 | − 0·50 |
| | 14 | 2, 5 | 22 | 70 | + ·020 | + 1·40 |
| | 15 | 5, 5 | 20 | 100 | + ·034 | + 3·40 |

Mean correction to solar parallax . . . +″·007 ± ″·0036

Total number of plates used . . . . . . . . 180

Total weight . . . . . . . . . . . 1851

## TABLE 27.

### *Astrographic and Thompson Photographs—Comparison Stars.*

Morning to Evening Comparisons.

| Date. | No. of Plates compared. | Approximate Difference of Parallax. | Weight. | Correction to Solar Parallax 8″·800. | Correction to Parallax × Weight. |
|---|---|---|---|---|---|
| 1900. | | ″ | | ″ | ″ |
| October 14–15 . . | 4, 1 | 10 | 8 | − ·045 | − 0·36 |
| 20–21 . . | 1, 4 | 23 | 42 | + ·060 | + 2·52 |
| 26–27 . . | 4, 5 | 25 | 140 | + ·048 | + 6·72 |
| 28–29 . . | 2, 5 | 26 | 97 | − ·009 | − 0·87 |
| November 8–9 . . | 2, 2 | 19 | 36 | − ·012 | − 0·43 |
| 9–10 . . | 3, 3 | 27 | 109 | + ·012 | + 1·31 |
| 10–11 . . | 2, 3 | 27 | 88 | + ·012 | + 1·06 |
| 14–15 . . | 3, 5 | 24 | 108 | − ·067 | − 7·24 |
| 22–23 . . | 5, 2 | 29 | 120 | + ·007 | + 0·84 |
| December 6–7 . . | 6, 3 | 16 | 51 | + ·065 | + 3·31 |
| 9–10 . . | 1, 2 | 24 | 38 | − ·004 | − 0·15 |
| 15–16 . . | 6, 1 | 26 | 58 | + ·036 | + 2·09 |
| 28–29 . . | 3, 3 | 12 | 22 | + ·033 | + 0·73 |
| 1901. | | | | | |
| January 8–9 . . | 3, 6 | 17 | 58 | − ·120 | − 6·96 |
| 13–14 . . | 1, 2 | 22 | 32 | + ·075 | + 2·40 |
| 14–15 . . | 5, 5 | 20 | 100 | − ·044 | − 4·40 |
| 17–18 . . | 1, 3 | 16 | (15) | (+ ·312) | (+ 4·68) |

| | |
|---|---|
| Mean correction to solar parallax . . . | +″·001 ± ″·0080 |
| Total number of plates used (excluding January 17–18) . | 103 |
| Total weight . . . . . | 1107 |

Collecting the results of the six discussions given above, we obtain the following :—

| | Solar Parallax. | Theoretical Weight. |
|---|---|---|
| Astrographic Photographs—Reference Stars . . . . | 8″·794 ± ″·0049 | 39·9 |
| ,, ,, Comparison Stars . . . . | 8·809 ± ·0052 | 39·9 |
| Thompson Photographs—Comparison Stars . . . . | 8·800 ± ·0063 | 30·6 |
| Combined Discussion—Comparison Stars . . . . | 8·800 ± ·0044 | 70·8 |
| ,, ,, Evening to Morning Comparisons . | 8·807 ± ·0036 | 59·2 |
| ,, ,, Morning to Evening Comparisons . | 8·801 ± ·0080 | 35·4 |

A more convenient unit of weight is used here, viz. the weight of a comparison between two plates on which the difference of parallax is 25″. (This is 31¼ times the unit previously used.)

The probable errors for unit weight in the various determinations (using comparison stars) are as follows :—

| | |
|---|---|
| Astrographic Photographs . . . . . . . . | ± 0″·033 |
| Thompson ,, . . . . . . . . | ± 0·035 |
| Combined Discussion . . . . . . . . | ± 0·037 |
| Evening to Morning Comparisons . . . . . . | ± 0·028 |
| Morning to Evening ,, . . . . . . . | ± 0·048 |

The superiority of the evening to morning comparisons has already been explained. Contrary to expectation, the Thompson photographs show no superiority over the Astrographic, in spite of their larger scale. But it must be borne in mind that the circumstances of the comparisons have a large share in determining the accidental error (as the last two results show); and, owing to the smaller number of photographs, comparisons were more frequently made between plates with a considerable interval of time in the case of the Thompson than in the case of the Astrographic photographs.

The difference between the results derived from the reference stars and comparison stars is definitely systematic in character. It is found that when plates taken at a large hour-angle are compared with those taken near the meridian (on the same night and with the telescope on the same side of the pier) the comparison stars are displaced relatively to the reference stars always in the same direction, and in the mean by about 0″·07 in R.A. This is shown in Table 28, which includes only plates taken with the telescope east of the pier (corresponding to westerly hour-angles for the low plates). The available material is not suitable for a corresponding discussion of plates taken with the telescope west, there being very few occasions when meridian and low plates were taken on the same night in this position. It has therefore not been possible to ascertain whether the displacement is symmetrical with respect to the meridian.

### TABLE 28.

### *Mean Residuals of Comparison Stars.*

Residuals (Calculated—Observed) referred to reference stars.

| Date. | Mean Residual in Right Ascension. | | | Mean Residual in Declination. | | |
|---|---|---|---|---|---|---|
| | Meridian Plates. | Low Plates. (W. hour-angles). | Mean Difference Meridian —Low. | Meridian Plates. | Low Plates. (W. hour-angles). | Mean Difference Meridian —Low. |
| Oct. 20 | +″·09, −″·01 | −″·07 | +″·110 | −″·05, +″·02 | −″·02 | +″·005 |
| 21 | +·01 | −·12, +·01 | +·065 | −·01 | +·06, +·07 | −·075 |
| 26 | +·04, +·05 | −·03, −·05 | +·085 | +·14, +·05 | +·01, +·15 | +·015 |
| 27 | −·04, −·04 | +·02, −·10 | ·000 | +·13, +·01 | +·02, +·01 | +·055 |
| Nov. 9 | +·04 | −·10, −·12, −·17 | +·170 | +·17 | −·08, −·08, −·06 | +·243 |
| Dec. 7 | +·06, +·03 | −·09 | +·135 | +·05, −·02 | +·05 | −·035 |
| 13 | +·03, +·03, +·02 | +·12, −·03 | −·018 | +·11, +·02, −·04 | +·01, −·04 | +·045 |
| 19 | −·01, +·01 | −·02, −·07 | +·045 | +·13, +·01 | −·03, −·02 | +·095 |
| Jan. 5 | +·18, +·01 | +·15, −·01, −·02 | +·045 | −·14, +·16 | +·03, −·02, −·15 | +·057 |
| 9 | +·14, +·01 | −·02 | +·095 | +·01, +·12 | +·08 | −·015 |
| | | Mean | +·073 | | Mean | +·039 |

The displacement in Declination is not so marked, but taking the mean result of the table as correct, the Declinations agree with the Right Ascensions in indicating that the comparison stars are displaced towards the zenith in the low plates (relatively to the reference stars).

In order to determine whether this relative displacement depends on the comparison stars being fainter than the reference stars, or to their being nearer to the centre of the plate, a similar table was made of the mean residuals (in R.A.) of the reference stars which fall within the area of the field over which the comparison stars are distributed (*i.e.* within 25′ of the plate centre). In general from 4 to 6 reference stars on each plate were sufficiently near the centre to be used for this purpose. The results given in Table 29 seem to show that these stars are also systematically displaced in the low plates, though not so much as the comparison stars (+″·038 instead of +″·073). It would seem, then, that part, if not all, of the displacement depends on proximity to the centre of the field.

### TABLE 29.

*Mean Residuals of Reference Stars within 25′ of the Plate Centre.*

Residuals (Calculated—Observed) using the finally adopted places of reference stars.

| Date. | | Mean Residual in R.A. | | Mean Difference Meridian—Low. |
|---|---|---|---|---|
| | | On Meridian Plates. | On Low Plates. (W. hour-angles). | |
| October | 20 | +″·04, +″·10 | +″·02 | + ″·050 |
| | 21 | −·11 | −·09, −·17 | + ·020 |
| | 26 | −·02 | −·14, −·02 | + ·060 |
| | 27 | +·02, −·02 | +·02, +·03 | − ·025 |
| November | 9 | −·06 | −·03, −·12, −·09 | + ·020 |
| December | 7 | −·05, +·03 | −·02 | + ·010 |
| | 13 | +·11, +·08, +·08 | −·02, −·02 | + ·110 |
| | 19 | +·01, −·10 | −·05, −·11 | + ·035 |
| January | 5 | +·11, −·02 | +·10, +·02, +·03 | − ·005 |
| | 9 | −·01, −·02 | −1·2 | + ·105 |
| | | | Mean | + ·038 |

Whatever may be the cause of the systematic difference, we must suppose that Eros will behave like the comparison stars rather than like the reference stars;

accordingly the value of the solar parallax derived from the latter is rejected as being affected by systematic error. It is to be noted that even if the results derived from the reference stars were trustworthy, not much advantage would be gained by taking the mean between the values derived from reference and comparison stars. The two series of places are not independent; accidental errors inherent in the image of Eros are repeated in each series, and the mean error in the adopted places of the reference stars used on any night is in the main repeated in the places of the comparison stars. Thus the accidental error of the determination would not be appreciably diminished by taking the mean of the two results.

In Section V. it was shown that the value of the solar parallax deduced depends systematically on the division error adopted for the central lines of the réseau. The corrections there deduced (additional to those which had been provisionally employed), amounting in the mean to +″·065 for Astrographic photographs, were applied to the positions of Eros before deducing the preceding results, as explained on p. lii. This quantity was very closely confirmed by a discussion of the residuals of the comparison stars, which indicated +″·068. The estimated probable errors of the two results separately are, however, about ±″·006 and ±″·008. In order that the effect of the uncertainty in the determination of division errors may be estimated, the results obtained before these corrections were applied are given below.

*Provisional Results uncorrected for Residual Division Error.*

| | | | |
|---|---|---|---|
| Astrographic | Photographs— | Reference Stars | 8″·758 ± ·0054 |
| ,, | ,, | Comparison Stars | 8·774 ± ·0059 |
| Thompson | ,, | ,, ,, | 8·802 ± ·0071 |

It will be seen that the result from the Thompson photographs is practically unaltered by the application of the new division errors. This is due to the fact that, in the first place, the scale of the Thompson photographs is twice that of the Astrographic, and that the corrections for division error are consequently halved. Further, through the same cause, the accidental variations in the position of Eros relatively to the lines of the réseau were increased (including variations in position due to the motion of Eros during the night, the plate being centred for the position of Eros at midnight); the division errors of lines 13, 14, 15 are exceptionally great, so that when Eros falls beyond these limits a much smaller correction is applicable. During part of the opposition the réseau was not reversed with the telescope in passing from E to W of the pier (see p. xi).

For the Astrographic photographs the application of the division correction ″·065 has increased the deduced value of the solar parallax by ″·035.

A discussion was also made using only comparisons between plates taken with the telescope on the same side of the pier, so that the division error of the réseau was eliminated.

*Results from Photographs taken with Telescope East of Pier.**

| | Solar Parallax. | Theoretical Weight. |
|---|---|---|
| Astrographic Photographs—Reference Stars . . . | 8·748 ± ″·009 | 12·5 |
| ,, ,, Comparison ,, . . . | 8·783 ± ·009 | 12·5 |

The weight of this determination is small, a large part of the material being wasted. It, however, shows very markedly the difference between the reference and comparison stars.

## DECLINATIONS.

The weight of the determinations of the parallax of Eros from the Declinations is much smaller than that derived from the Right Ascensions, but it is not entirely insignificant. The greatest difference of parallax in Right Ascension actually attained was about 28″; the greatest difference of parallax in Declination was 15″·6 on December 6; or, if comparisons extending over more than one day are admitted, the difference of parallax in Declination amounted to 16″·5 in the group of observations November 13–15.

In order to take account of a large number of comparisons for the determination of parallax, each of small weight, a solution by least squares was made, the separate determinations being made by comparing each plate with the mean of the group instead of comparing the extreme plates directly with one another. The weights to be used in combining the separate determinations are (as before) the squares of the difference of parallax.

---

* These results are from a discussion by the method of least squares.

No special determination of the division errors of the central lines of the réseau was needed for the declinations. The parallax being of the same sign on both sides of the meridian, comparisons were made between plates taken at a large hour-angle E or W and those near the meridian. About the same proportion of low plates were taken with the telescope E and W (réseau direct and reversed) as meridian plates; accordingly, the value of the division error of the central lines of the réseau does not affect systematically the deduced parallax.

In Tables 30 and 31 the values of the parallax resulting from the various groups are given.

### TABLE 30.

### *Solar Parallax from Declinations of Eros.*

Astrographic Photographs.

| Date. | | Weight. | Correction to Adopted Parallax 8″·800. | |
|---|---|---|---|---|
| | | | Reference Stars. | Comparison Stars. |
| October | 14–15 | 5 | ″·000 | + ″·062 |
| | 20–21 | 11 | − ·112 | − ·070 |
| | 26–27 | 19 | − ·161 | − ·023 |
| November | 9–11 | 28 | − ·099 | + ·018 |
| | 13–15 | 30 | + ·004 | + ·049 |
| | 22–23 | 21 | − ·074 | − ·082 |
| December | 6–7 | 18 | + ·065 | + ·047 |
| | 13 | 14 | ·000 | + ·040 |
| | 15–17 | 15 | + ·144 | + ·128 |
| | 19–21 | 20 | + ·144 | + ·179 |
| | 26–29 | 10 | − ·114 | − ·058 |
| January | 4–5 | 11 | − ·008 | + ·060 |
| | 8–19 | 13 | − ·028 | − ·040 |
| | 14–15 | 7 | − ·077 | − ·100 |

Mean Correction to Solar Parallax—

from reference stars . . . − ″·019 ± ″·018
from comparison stars . . . + ·019 ± ·014
Total Weight . 222

## TABLE 31.

### *Solar Parallax from Declinations of Eros.*

Thompson Photographs.

| Date. | | Weight. | Correction to Parallax 8″·800. |
|---|---|---|---|
| | | | ″ |
| October | 1–5 | 9 | − ·146 |
| | 7–8 | 9 | − ·062 |
| | 20–21 | 4 | + ·068 |
| | 26–27 | 16 | − ·003 |
| November | 6–7 | 4 | − ·212 |
| | 13–15 | 10 | − ·033 |
| December | 6–7 | 28 | + ·035 |
| | 13 | 10 | + ·129 |
| | 15–17 | 20 | − ·076 |
| | 19–21 | 19 | + ·070 |
| | 26–29 | 4 | − ·065 |
| January | 4–5 | 14 | − ·059 |
| | 14–15 | 13 | − ·096 |

Mean Correction to Solar Parallax −″·017 ± ″·016

Total Weight . 160

The results from reference stars are perhaps affected by systematic error (as in the case of the Right Ascensions), and therefore cannot be trusted. The comparison stars give for the solar parallax—

| | |
|---|---|
| Astrographic Photographs . . . . . . | 8″·819 ± ″·014 |
| Thompson ,, . . . . . . | 8·783 ± ·016 |

The mean agrees very closely with the result deduced from the Right Ascensions, but has about three times as great a probable error.

## CONCLUSION.

The result 8″·800 ± ″·0044, deduced from the combined discussion of the Right Ascensions measured on both sets of photographs (Table 25), must be regarded as the value of the solar parallax determined from the Greenwich observations.

It is, however, worth while to call attention to various considerations which seem to favour a value slightly higher than 8″·800 (which, however, in no way contradict the foregoing result, having regard to the assigned limits of probable error). These considerations are :—

(1) The value 8″·807 ± ″·0036, derived from comparisons in which the accidental errors of star-places are completely eliminated, is entitled to great weight on account of its exceptionally small probable error. Although we have considered it safer to derive the final value of the parallax from morning to evening as well as evening to morning comparisons, it hardly seems possible that any error would be introduced when one set only is used.

(2) Of the four other principal results derived by discussions of parts of the same material, three are greater than 8″·800, viz. 8″·801, 8″·807, and 8″·809, and one equal to 8″·800. This suggests that the incidence of accidental error has happened to lead to a somewhat small value in the present case.

(3) Of the 24 separate comparisons on which the result 8″·800 is founded, 9 comparisons, with a total weight 868, lead to values less than 8″·800, and 14 comparisons, with a total weight 1308, lead to values greater than 8″·800.

Thus the median value is greater than 8″·800.

A value very slightly higher than 8″·800 would satisfy these considerations, whilst lying well within the limits of probable error of the result given. Further, the systematic error of $''\cdot0015$ (referred to on page lx.) should, strictly speaking, be allowed for, leading to an increase of the parallax by that amount.

For these reasons it is permissible to conclude that in giving the value $8''\cdot800$ as a final result, the tendency is, if anything, to underestimate rather than overestimate the amount.

W. H. M. CHRISTIE.

ROYAL OBSERVATORY, GREENWICH.
1907, *December* 18.

## DETERMINATIONS OF THE SOLAR PARALLAX—COLLECTED RESULTS.

(Determinations which are known to be affected by systematic error, and are accordingly not considered trustworthy within the limits of the probable errors given, are enclosed in brackets.)

RIGHT ASCENSIONS—

| | Solar Parallax. | Theoretical Weights. |
|---|---|---|
| Astrographic—from Reference Stars . . . | (8″·794 ± ″·0049) | (39″·9) |
| ,, ,, Comparison Stars . . | 8·809 ± ·0052 | 39·9 |
| Thompson ,, Comparison Stars . . | 8·800 ± ·0063 | 30·6 |
| Combined Discussion, Astrographic and Thompson from Comparison Stars . | **8·800 ± ·0044** | **70·8** |
| ,, Evening to Morning comparisons . | 8·807 ± ·0036 | 59·2 |
| ,, Morning to Evening comparisons . | 8·801 ± ·0080 | 35·4 |

*Provisional Results, uncorrected for Residual division error—*

| | | |
|---|---|---|
| Astrographic—from Reference Stars . . . | (8·758 ± ·0054) | |
| ,, ,, Comparison Stars . . | (8·774 ± ·0059) | |
| Thompson ,, Comparison Stars . . | (8·802 ± ·0071) | |

*Telescope East of the pier only—Réseau not reversed—*

| | | |
|---|---|---|
| Astrographic—from Reference Stars . . . | (8·748 ± ·009) | (12·5) |
| ,, ,, Comparison Stars . . | 8·783 ± ·009 | 12·5 |

DECLINATIONS—

| | | |
|---|---|---|
| Astrographic—from Reference Stars . . . | (8·781 ± ·018) | (7·1) |
| ,, ,, Comparison Stars . . | 8·819 ± ·014 | 7·1 |
| Thompson ,, Comparison Stars . . | 8·783 ± ·016 | 5·5 |
| Mean ,, Comparison Stars . . | 8·801 | |

ROYAL OBSERVATORY, GREENWICH.

---

# RESULTS OF MEASURES

OF

# PHOTOGRAPHS OF THE PLANET EROS

## FOR DETERMINATION OF THE SOLAR PARALLAX

## 1900-1901.

## TABLE I.—List of Photographs of Eros.

| Date. | Astrographic 13-inch Refractor. | | | | | | Thompson 26-inch Refractor. | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | No. | Position of Telescope. | Hour Angle West. | Exposures. | Barometer. | Thermometer. | No. | Position of Telescope. | Hour Angle West. | Exposures. | Barometer. | Thermometer. |
| 1900. | | | h m s | m m m m | in. | ° | | | h m s | m m m m | in. | ° |
| October 1 | 5126 | W | − 3 10 58 | 3, 6, 4, 2 | 29·8 | 51 | 744 | E | − 6 43 22 | 3, 3, 5, 4½ | 29·8 | 53 |
| | | | | | | | 745 | E | − 2 56 32 | 2½, 3, 3, 3 | 29·8 | 51 |
| | | | | | | | 746 | E | − 1 49 57 | 3, 2, 3 | | |
| 2 | 5129 | W | − 5 15 54 | 1½, 2, 2, | | | 747 | E | − 6 23 47 | 3, 3, 2 | 29·7 | 52 |
| | 5130 | W | − 4 33 14 | 1½, 3, 2, | 29·7 | 52 | | | | | | |
| | 5131 | W | − 3 33 9 | 4, 2, 4, 2 | | | | | | | | |
| | 5133 | W | − 1 7 54 | 3, 2 | 29·7 | 52 | | | | | | |
| 3 | 5134 | W | − 3 48 24 | 3, 2, | 29·9 | 45 | 748 | E | − 6 2 6 | 3, 2 | | |
| | | | | | | | 749 | E | − 4 47 59 | 3, 2 | 29·9 | 45 |
| 4 | 5138 | W | − 6 30 6 | 3, 2 | 29·5 | 56 | 751 | E | − 6 4 15 | 3, 3 | 29·5 | 56 |
| | 5139 | W | − 5 48 4 | 3, 3, 2, 2 | | | 752 | E | − 5 47 22 | 2, 2, 3, 3 | | |
| | | | | | | | 753 | E | − 1 33 7 | 2, 2, 3 | 29·6 | 53 |
| 5 | 5141 | W | − 5 28 49 | 3, 3, 2, 2 | 29·8 | 52 | 754 | E | − 7 0 0 | 3, 3, 2, 2 | | |
| | | | | | | | 755 | E | − 5 7 9 | 3, 3 | 29·8 | 52 |
| 7 | 5142 | W | − 4 25 48 | 3, 3, 2, 2 | | | 756 | E | − 5 7 2 | 3, 3, 2, 2 | 30·2 | 54 |
| | 5143 | W | − 3 50 32 | 3, 3, 2, 2 | 30·2 | 54 | 757 | E | − 1 19 24 | 3, 3, 2, 2 | 30·1 | 53 |
| | 5145 | W | − 2 37 48 | 3, 3, 2, 2 | | | | | | | | |
| | 5146 | W | − 2 0 57 | 3, 3, 2, 2 | 30·1 | 53 | | | | | | |
| 8 | 5148 | W | − 5 51 48 | 3, 3 | 30·2 | 60 | 759 | E | − 6 37 55 | 2, 2, 3, 3 | | |
| | 5150 | W | − 2 18 56 | 3, 3, 2, 2 | | | 760 | E | − 6 15 4 | 2, 2, 3, 3 | 30·2 | 60 |
| | 5152 | E | − 0 37 28 | 3, 3, 2, 2 | 30·1 | 59 | 761 | E | − 1 36 28 | 2, 2, 3, 3 | 30·1 | 59 |
| 9 | | | | | | | 762 | E | − 7 1 58 | 3, 3 | 30·0 | 60 |
| 10 | 5154 | W | − 6 5 38 | 3, 3, 2, 2 | 30·0 | 52 | 763 | E | − 6 56 27 | 3, 3 | | |
| | | | | | | | 764 | E | − 6 33 42 | 3, 3 | 30·0 | 52 |
| 13 | | | | | | | 766 | E | − 0 26 8 | 3, 2, 2 | 30·0 | 52 |
| 14 | 5160 | E | − 0 30 10 | 3, 3, 2, 2 | 29·7 | 39 | 770 | E | − 1 17 7 | 3, 3, 2, 2 | | |
| | 5161 | E | + 0 7 29 | 3, 3, 2, 2 | | | 771 | E | − 0 50 35 | 3, 3, 2, 2 | 29·7 | 39 |
| 15 | 5162 | W | − 5 56 8 | 3, 3, 2, 2 | 29·7 | 45 | | | | | | |
| 20 | 5169 | E | − 0 46 45 | 3, 3, 2 | 30·0 | 42 | 778 | E | − 0 57 14 | 3, 3, 2, 2 | 30·0 | 42 |
| | 5170 | E | − 0 15 43 | 3, 3, 2, 2 | | | | | | | | |
| | 5172 | E | + 4 40 15 | 3, 3, 2 | 30·0 | 38 | | | | | | |
| 21 | 5173 | W | − 6 13 51 | 3, 3, 2, 2 | 30·2 | 42 | 782 | E | − 5 33 9 | 3, 3, 2, 2 | 30·2 | 42 |
| | 5174 | W | − 5 45 58 | 3, 3, 2 | | | 783 | E | − 5 7 27 | 3, 3, 2, 2 | | |
| | 5177 | E | −.0 23 40 | 3, 3, 2, 2 | 30·3 | 40 | | | | | | |
| | 5178 | E | + 4 15 25 | 3, 3, 2, 2 | | | | | | | | |
| | 5179 | E | + 4 39 44 | 3, 3 | 30·3 | 37 | | | | | | |
| 26 | 5183 | W | − 5 49 55 | 3, 3, 2, 2 | 29·2 | 40 | 787 | E | − 5 24 11 | 3, 3, 2, 2 | 29·2 | 40 |
| | 5184 | W | − 5 7 21 | 3, 3, 2, 2 | | | 788 | E | − 5 1 39 | 3, 3, 2, 2 | | |
| | 5185 | W | − 4 31 26 | 3, 3, 2, 2 | | | 789 | E | − 4 36 10 | 3, 3, 2, 2 | | |
| | 5186 | E | − 0 41 15 | 3, 3, 2, 1¾ | | | 790 | E | − 0 47 2 | 3, 3, 2, 2 | | |
| | 5187 | E | + 0 14 11 | 3, 3, 2, 2 | 29·2 | 38 | 791 | W | − 0 7 55 | 3, 3, 2, 2 | 29·2 | 38 |
| | 5189 | E | + 5 3 0 | 3, 3, 2, 2 | | | 792 | W | + 5 1 19 | 3, 3, 2, 2 | | |
| | 5190 | E | + 5 34 37 | 3, 3 | 29·2 | 42 | 793 | W | + 5 22 18 | 3, 3, 2, 2 | 29·2 | 42 |

TABLE I.—List of Photographs of Eros.

| Date. | Astrographic 13-inch Refractor. | | | | | | Thompson 26-inch Refractor. | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | No. | Position of Telescope. | Hour Angle West. | Exposures. | Barometer. | Thermometer. | No. | Position of Telescope. | Hour Angle West. | Exposures. | Barometer. | Thermometer. |
| 1900. | | | h m s | m m m m | in. | ° | | | h m s | m m m m | in. | ° |
| October 27 | 5191 | W | − 5 25 25 | 3, 3, 2, 2 | | | 794 | E | − 4 44 6 | 3, 3, 2, 2 | 29·5 | 46 |
| | 5192 | W | − 4 59 46 | 3, 2, 2 | | | 795 | E | − 4 12 5 | 3, 3, 2, 2 | | |
| | 5193 | W | − 4 37 48 | 3, 2, 2 | 29·5 | 46 | 796 | E | − 0 22 50 | 3, 3, 2, 2 | 29·6 | 42 |
| | 5200 | E | − 0 51 1 | 3, 3, 2, 2 | 29·6 | 42 | 797 | W | + 0 14 33 | 3, 3, 2, 2 | | |
| | 5201 | E | − 0 30 16 | 3, 3, 2, 2 | | | 798 | W | + 5 1 1 | 2, 1 | | |
| | 5202 | E | + 4 57 27 | 3, 3, 2, 2 | | | 799 | W | + 5 26 6 | 3, 3, 2, 2 | 29·6 | 39 |
| | 5203 | E | + 5 25 41 | 3, 3, 2, 2 | 29·6 | 39 | | | | | | |
| 28 | 5204 | E | + 5 25 23 | 3, 3, 2, 2 | 29·5 | 50 | 800 | W | + 5 16 14 | 3, 3, 2, 2 | 29·5 | 50 |
| 29 | 5205 | W | − 5 34 25 | 3, 3, 2, 2 | 29·6 | 49 | 801 | E | − 5 39 52 | 3, 3, 2, 2 | 29·6 | 49 |
| | 5206 | W | − 5 8 44 | 3, 3, 2, 2 | | | 802 | E | − 5 18 55 | 3, 2 | | |
| | | | | | | | 803 | E | − 4 57 31 | 3, 3, 2, 2 | | |
| 31 | 5207 | E | + 5 23 34 | 3, 3, 2, 2 | 29·7 | 54 | | | | | | |
| | 5208 | E | + 5 50 32 | 3, 3, 2 | | | | | | | | |
| November 6 | 5209 | W | − 4 57 38 | 3, 3, 2 | 29·3 | 55 | 804 | E | − 5 4 46 | 3, 3, 2, 2 | 29·3 | 55 |
| 7 | 5210 | E | + 6 18 54 | 3, 3, 2, 2 | | | | | | | | |
| | 5211 | E | + 7 5 15 | 3, 3, 2, 2 | 29·8 | 40 | | | | | | |
| 8 | | | | | | | 806 | W | + 1 47 8 | 3, 3, 2, 2 | 29·6 | 52 |
| | | | | | | | 807 | W | + 2 10 16 | 3, 3, 2 | | |
| 9 | 5212 | W | − 4 32 42 | 3, 3, 2, 2 | 29·6 | 47 | | | | | | |
| | 5213 | W | − 3 19 9 | 3, 3, 2, 2 | 29·6 | 46 | | | | | | |
| | 5214 | E | − 0 8 56 | 3, 3, 2, 2 | 29·5 | 43 | | | | | | |
| | 5215 | E | + 3 42 15 | 2, 2 | 29·5 | 39 | | | | | | |
| | 5216 | E | + 6 26 46 | 3, 2 | 29·5 | 39 | | | | | | |
| | 5217 | E | + 6 56 26 | 3, 3, 2 | 29·5 | 38 | | | | | | |
| 10 | 5218 | W | − 4 39 52 | 3, 2, 2 | | | 811 | W | + 6 19 7 | 3, 3, 2 | 29·6 | 32 |
| | 5219 | W | − 4 14 59 | 3, 3, 2, 2 | 29·5 | 45 | 812 | W | + 6 44 3 | 3, 2 | | |
| | 5220 | W | − 3 53 0 | 3, 2, 2 | | | | | | | | |
| | 5222 | E | + 0 13 34 | 3, 3, 2, 2 | 29·5 | 39 | | | | | | |
| | 5223 | E | + 0 33 40 | 3, 3, 2, 2 | | | | | | | | |
| 11 | 5226 | W | − 4 4 21 | 3, 3, 2, 2 | 29·8 | 39 | | | | | | |
| | 5227 | W | − 3 41 9 | 3, 3, 2, 2 | 29·8 | 39 | | | | | | |
| | 5228 | W | − 3 18 1 | 3, 3, 2, 2 | 29·8 | 39 | | | | | | |
| | 5229 | E | − 0 16 38 | 3, 3, 2, 2 | | | | | | | | |
| 13 | 5230 | W | − 4 46 46 | 3, 3, 2, 2 | | | 817 | E | − 4 34 33 | 3, 3, 2, 2 | | |
| | 5231 | W | − 4 20 10 | 3, 3, 2, 2 | | | 818 | E | − 4 12 48 | 3, 3, 2, 2 | 29·5 | 48 |
| | 5232 | W | − 3 53 29 | 3, 3, 2, 2 | 29·5 | 48 | 819 | W | + 5 42 34 | 3, 3, 2, 2 | 29·5 | 46 |
| | 5234 | E | + 5 57 31 | 3, 3, 2, 2 | 29·5 | 46 | 820 | W | + 6 42 49 | 3, 3, 2, 2 | | |
| | 5235 | E | + 6 56 27 | 3, 3, 2, 2 | | | | | | | | |
| | 5236 | E | + 7 25 45 | 3, 3, 2, 2 | 29·5 | 43 | | | | | | |
| 14 | 5237 | E | + 3 31 57 | 3, 3, 2, 2 | 29·6 | 40 | 821 | W | + 2 24 26 | 1¾, 1½, 1¾ | 29·6 | 40 |
| | 5238 | E | + 3 59 43 | ¾, 3, 2, 2 | 29·6 | 39 | | | | | | |
| 15 | 5239 | W | − 4 7 31 | 3, 3, 2, 2 | 29·2 | 45 | 822 | E | − 4 6 10 | 3, 2, 3, 2 | 29·2 | 45 |
| | 5240 | W | − 3 46 31 | 3½, 3, 2, 2 | | | 823 | E | − 3 41 35 | 3, 3, 2, 2 | | |
| | 5241 | W | − 3 25 1 | 3, 3, 2, 2 | 29·2 | 44 | | | | | | |
| | 5242 | E | − 0 50 32 | 3, 3, 2, 2 | 29·1 | 43 | | | | | | |
| | 5243 | E | − 0 27 59 | 3, 3, 2, 2 | | | | | | | | |

Table I.—List of Photographs of Eros.

| Date. | Astrographic 13-inch Refractor. | | | | | | Thompson 26-inch Refractor. | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | No. | Position of Telescope. | Hour Angle West. | Exposures. | Barometer. | Thermometer. | No. | Position of Telescope. | Hour Angle West. | Exposures. | Barometer. | Thermometer. |
| | | | h m s | m m m m | in. | ° | | | h m s | m m m m | in. | ° |
| 1900. November 18 | 5248 | E | − 0 37 14 | 3, 2, 2 | 30·2 | 41 | | | | | | |
| | 5249 | E | − 0 8 3 | 3, 3, 2, 2 | 30·2 | 40 | | | | | | |
| | 5250 | E | + 0 18 10 | 3, 3, 2, 2 | 30·2 | 40 | | | | | | |
| 22 | 5253 | W | − 3 39 9 | 3, 3, 2, 2 | 29·6 | 41 | | | | | | |
| | 5254 | W | − 3 14 58 | 3, 2, 2 | | | | | | | | |
| | 5256 | E | + 3 52 27 | 3, 3, 2, 2 | 29·6 | 37 | | | | | | |
| | 5257 | E | + 4 19 23 | 3, 3, 2, 2 | 29·6 | 37 | | | | | | |
| | 5258 | E | + 4 42 19 | 3, 3, 2, 2 | 29·6 | 37 | | | | | | |
| | 5259 | E | + 6 15 5 | 3, 3, 2, 2 | 29·6 | 36 | | | | | | |
| | 5260 | E | + 6 37 37 | 3, 3, 2, 2 | | | | | | | | |
| 23 | 5261 | W | − 4 1 40 | 3, 3, 2, 2 | | | | | | | | |
| | 5262 | W | − 3 38 48 | 3, 3 | 29·6 | 39 | | | | | | |
| | 5263 | E | − 0 9 9 | 3, 3, 2, 2 | | | | | | | | |
| | 5264 | E | + 0 17 3 | 3, 3, 2, 2 | 29·6 | 38 | | | | | | |
| 25 | 5267 | W | − 2 11 44 | 2, 2 | 29·4 | 48 | | | | | | |
| | 5268 | E | − 0 49 43 | 3, 3, 2, 2 | 29·4 | 46 | | | | | | |
| | 5269 | E | − 0 28 1 | 3, 3, 2, 2 | 29·4 | 46 | | | | | | |
| 27 | 5270 | W | − 3 58 10 | 3, 3, 2, 2 | | | 844 | E | − 3 53 9 | 3, 3, 2, 2 | | |
| | 5271 | W | − 3 35 26 | 3, 2, 2 | 29·4 | 42 | 845 | E | − 3 30 17 | 3, 3, 2, 2 | 29·4 | 42 |
| | 5272 | W | − 3 14 35 | 3, 3, 2, 2 | | | 846 | E | + 0 47 17 | 3, 3, 2, 2 | 29·3 | 43 |
| | 5273 | E | − 0 27 45 | 3, 3, 2, 2 | | | 847 | W | + 1 34 50 | 3, 3, 2, 2 | | |
| | 5274 | E | − 0 2 56 | 3, 3, 2, 2 | 29·3 | 43 | | | | | | |
| 29 | 5275 | E | + 0 38 6 | 3, 1¾, 2, 2 | 29·4 | 43 | | | | | | |
| December 6 | 5276 | E | + 4 22 58 | 3, 3, 2, 2 | | | 848 | W | + 4 34 30 | 2, 2, 1, 1 | | |
| | 5277 | E | + 5 56 4 | 2, 2 | 29·6 | 42 | 849 | W | + 6 3 9 | 3, 3, 2, 2 | 29·6 | 42 |
| | 5278 | E | + 6 17 50 | 3, 3, 2, 2 | | | 850 | W | + 6 53 59 | 2, 2, 1½, 1 | | |
| 7 | 5279 | E | − 0 49 25 | 3, 2, 2 | 30·0 | 44 | 851 | E | − 0 0 20 | 3, 3, 2, 2 | 30·0 | 44 |
| | 5280 | E | − 0 17 9 | 3, 3, 2, 2 | | | 852 | E | + 0 32 18 | 2½, 2½, 2, 2 | | |
| | 5283 | W | + 5 12 19 | 3, 3, 2, 2 | 30·1 | 42 | 853 | E | + 6 8 16 | 3, 3, 2, 2 | 30·1 | 42 |
| | | | | | | | 854 | W | + 6 52 36 | 2½, 2 | | |
| 9 | 5285 | W | − 3 4 6 | 3, 3, 2, 2 | 30·0 | 50 | | | | | | |
| | 5286 | E | + 4 2 5 | 3, 3, 2 | 30·1 | 44 | | | | | | |
| 10 | 5287 | E | − 0 22 15 | 3, 3, 2, 2 | 30·2 | 42 | 855 | E | − 2 16 3 | 3, 3 | | |
| | | | | | | | 856 | E | − 1 49 29 | 3, 3, 2, 2 | 30·2 | 42 |
| 13 | 5288 | E | − 1 5 30 | 3, 3, 2, 2 | 30·0 | 45 | 858 | E | − 1 22 56 | 3, 3, 2, 2 | | |
| | 5289 | E | − 0 44 5 | 3, 3, 1¾, 2 | | | 859 | E | − 1 0 24 | 3, 3, 2, 2 | 30·0 | 45 |
| | 5290 | E | − 0 20 10 | 3¾, 3, 2, 2 | | | 860 | E | − 0 38 17 | 3, 2, 2 | | |
| | 5294 | E | + 4 48 15 | 3, 3, 2, 2 | 30 1 | 42 | 861 | W | + 5 47 8 | 3, 3, 2, 2 | 30·1 | 42 |
| | 5297 | E | + 6 12 20 | 3, 3 | | | | | | | | |
| 15 | 5299 | W | − 2 42 25 | 3, 3, 2, 2 | | | 863 | E | − 2 22 1 | 3, 2, 2 | 30·1 | 49 |
| | 5300 | W | − 2 17 38 | 3, 3, 2, 2 | 30·1 | 49 | 864 | E | − 1 58 19 | 3, 3, 2, 2 | | |
| | 5304 | E | + 4 12 5 | 3, 3, 2 | 30·2 | 44 | 865 | E | − 1 31 58 | 3, 3, 2, 2 | | |
| | 5306 | E | + 5 37 52 | 3, 3, 2, 2 | | | 866 | W | + 3 58 25 | 3, 3, 2, 2 | 30·2 | 44 |
| | 5307 | E | + 6 7 29 | 3, 3, 2, 2 | 30·2 | 42 | 867 | W | + 6 0 5 | 3, 3, 2, 2 | 30·2 | 42 |
| | | | | | | | 868 | W | + 6 22 59 | 3, 2, 2 | | |
| 16 | 5308 | W | − 2 27 5 | 3, 2, 2 | 30·3 | 46 | | | | | | |

TABLE I.—List of Photographs of Eros.

| Date. | Astrographic 13-inch Refractor. | | | | | | Thompson 26-inch Refractor. | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | No. | Position of Telescope. | Hour Angle West. | Exposures. | Barometer. | Thermometer. | No. | Position of Telescope. | Hour Angle West. | Exposures. | Barometer. | Thermometer. |
| 1900. | | | h m s | m m m m | in. | ° | | | h m s | m m m m | in. | ° |
| December 17 | 5309 | W | − 2 35 55 | 3, 3, 2, 2 | | | 869 | E | − 2 24 18 | 3, 3, 2 | 30·0 | 39 |
| | 5310 | W | − 2 5 55 | 3, 3, 2, 2 | 30·0 | 39 | 870 | E | − 2 0 35 | 3, 3, 2, 2 | | |
| | 5313 | E | − 0 21 32 | 3, 3 | | | 871 | E | − 1 41 7 | 3, 3, 2, 2 | | |
| 19 | 5314 | W | − 2 1 36 | 3, 2, 2 | 30·0 | 44 | 872 | E | − 2 33 33 | 3, 3, 2, 2 | | |
| | 5315 | W | − 1 42 55 | 3, 3, 2, 2 | | | 873 | E | − 2 13 4 | 3, 3, 2 | | |
| | 5318 | E | − 0 19 7 | 3, 3, 2, 2 | | | 874 | E | − 1 51 26 | 3, 3, 2, 2 | 30·0 | 44 |
| | 5319 | E | + 0 0 58 | 3, 3, 2, 2 | 30·0 | 44 | 875 | W | + 4 34 55 | 3, 3, 2, 2 | | |
| | 5322 | E | + 4 25 45 | 3, 3, 2, 2 | | | 876 | W | + 5 11 58 | 3, 3, 2, 2 | 29·9 | 45 |
| | 5324 | E | + 5 50 16 | 3, 3, 2, 2 | 29·9 | 45 | 877 | W | + 6 35 29 | 3, 2, 2 | | |
| 20 | 5326 | E | + 6 15 35 | 3, 3, 2, 2 | 29·4 | 48 | | | | | | |
| 21 | 5327 | E | + 4 37 58 | 3, 3, 2, 2 | 29·8 | 38 | 878 | E | − 2 28 47 | 3, 3, 2, 2 | 29·7 | 44 |
| | 5328 | E | + 5 7 53 | 3, 2, 2 | | | 879 | E | − 2 10 34 | 3, 3, 2 | | |
| | 5329 | E | + 5 49 31 | 3, 3, 2, 2 | | | 880 | W | + 4 6 46 | 3, 3, 2, 2 | | |
| | | | | | | | 881 | W | + 4 52 42 | 3, 3, 2, 2 | 29·8 | 38 |
| | | | | | | | 882 | W | + 5 36 8 | 3, 3, 2, 2 | | |
| 24 | 5330 | E | + 2 25 25 | 3, 3, 2, 2 | 30·0 | 44 | | | | | | |
| 26 | 5331 | E | + 2 28 24 | 3, 3, 2, 2 | 29·7 | 46 | 883 | W | − 0 40 35 | 3, 3, 2 | | |
| | | | | | | | 884 | W | − 0 14 33 | 3, 3, 2, 2 | 29·7 | 46 |
| 28 | 5333 | E | + 1 21 47 | 3, 3, 2, 2 | 29·3 | 43 | 885 | E | + 1 52 50 | 3, 3, 2 2 | 29·3 | 43 |
| | 5334 | E | + 1 51 16 | 3, 3, 2, 2 | | | 886 | W | + 4 45 14 | 2, 2, 2 | 29·4 | 41 |
| | 5335 | E | + 5 4 10 | 2, 1¾ | 29·4 | 41 | | | | | | |
| | 5336 | E | + 5 43 30 | 3, 2¼, 2, 1¼ | | | | | | | | |
| 29 | 5337 | E | + 0 47 12 | 3, 3, 2, 2 | 29·6 | 39 | 887 | W | + 0 58 51 | 3, 3, 2, 1½ | 29·6 | 39 |
| | 5338 | E | + 1 11 57 | 3, 3, 2, 2 | | | | | | | | |
| 1901. | | | | | | | | | | | | |
| January 2 | 5339 | E | + 4 44 0 | 3, 3, 2, 2 | 30·2 | 35 | 889 | W | + 5 9 9 | 3, 3, 2 | 30·2 | 35 |
| | | | | | | | 890 | W | + 5 35 12 | 3, 3, 2 | | |
| 4 | 5341 | W | − 1 40 3 | 3, 3, 2, 2 | | | 891 | E | − 1 3 8 | 3½, 3 | 30·3 | 34 |
| | 5342 | W | − 1 11 40 | 3, 3, 2, 2 | 30·3 | 34 | 892 | E | − 0 33 29 | 3, 3, 2 | | |
| | 5343 | W | − 0 40 54 | 3, 3, 2, 2 | | | | | | | | |
| 5 | 5344 | E | + 0 56 3 | 3, 3, 2, 2 | | | 894 | W | + 1 18 37 | 3, 3, 2, 2 | 30·2 | 33 |
| | 5345 | E | + 1 23 4 | 3, 2, 1¾, | 30·2 | 33 | 895 | W | + 1 43 48 | 2, 1, 2 | | |
| | 5346 | E | + 4 35 48 | 3, 2, 2 | | | 896 | W | + 4 29 7 | 3, 2, 2 | | |
| | 5347 | E | + 5 15 24 | 3, 3, 2, 2 | 30·1 | 30 | 897 | W | + 5 43 29 | 3, 3, 2, 2 | 30·1 | 30 |
| | 5348 | E | + 5 39 28 | 3, 3, 2 | | | 898 | W | + 6 13 23 | 3, 3, 2, 2 | | |
| 8 | 5349 | W | − 0 59 57 | 3, 3, 2, 2 | 29·6 | 28 | | | | | | |
| | 5350 | E | + 5 5 9 | 3, 2 | | | | | | | | |
| | 5351 | E | + 5 28 14 | 3, 3, 2, 2 | | | | | | | | |
| | 5352 | E | + 5 51 20 | 3, 3, 2, 2 | 29·7 | 26 | | | | | | |
| 9 | 5353 | W | − 1 31 32 | 3, 3 | 29·7 | 38 | 899 | E | − 0 55 46 | 3, 3, 2, 2 | 29·7 | 38 |
| | 5354 | E | + 0 47 15 | 3, 3, 2, 2 | | | 900 | E | − 0 31 44 | 2 | | |
| | 5355 | E | + 1 3 53 | 3, 2¾ | 29·7 | 40 | 901 | E | − 0 16 3 | 3, 2, 2 | | |
| | 5356 | E | + 5 27 33 | 3, 3, 1½ | 29·7 | 43 | | | | | | |
| 13 | 5359 | E | + 5 6 45 | 3, 3, 2 | | | | | | | | |
| | 5360 | E | + 5 32 44 | 3, 2 | 30·3 | 34 | | | | | | |

TABLE I.—List of Photographs of Eros.

| Date. | Astrographic 13-inch Refractor. | | | | | | Thompson 26-inch Refractor. | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | No. | Position of Telescope. | Hour Angle West. | Exposures. | Barometer. | Thermometer. | No. | Position of Telescope. | Hour Angle West. | Exposures | Barometer. | Thermometer. |
| 1901. | | | h m s | m m m m | in. | ° | | | h m s | m m m m | in. | ° |
| January 14 | 5365 | E | + 4 49 1 | 3, 3, 2, 2 | | | 904 | W | − 1 25 20 | 3, 3, 2, 2 | 30·2 | 34 |
| | 5366 | E | + 5 14 2 | 3, 3, 2, 2 | | | 905 | W | − 1 6 40 | 3, 3, 2, 2 | | |
| | 5367 | E | + 5 38 37 | 3, 3, 2, 2 | 30·2 | 29 | 906 | W | + 5 28 29 | 3, 3, 2 | 30·2 | 29 |
| | | | | | | | 907 | W | + 5 51 10 | 3, 3, 2, 2 | | |
| 15 | 5368 | W | − 1 12 45 | 3, 3, 2, 2 | 29·9 | 33 | 908 | E | − 0 56 6 | 3, 2, 2 | 29·9 | 33 |
| | 5369 | W | − 0 49 49 | 3, 3, 2, 2 | 29·9 | 30 | 909 | E | − 0 37 13 | 3, 3, 2, 2 | | |
| | 5371 | E | + 5 1 14 | 3, 3, 2 | | | 910 | E | − 0 18 27 | 3, 3, 2, 2 | 29·9 | 30 |
| | 5372 | E | + 5 20 17 | 3 | 29·8 | 30 | 912 | W | + 4 35 48 | 3, 3, 2, 2 | | |
| | | | | | | | 913 | W | + 4 56 4 | 3, 2, 2 | | |
| | | | | | | | 914 | W | + 5 15 12 | 3, 2, 2 | 29·8 | 30 |
| 17 | 5379 | E | + 4 45 46 | 3, 3, 2, 2 | 30·0 | 39 | 915 | W | + 4 18 4 | 3, 3 | 30·0 | 39 |
| 18 | | | | | | | 917 | E | − 0 44 13 | 3 | 29·9 | 45 |
| | | | | | | | 918 | E | − 0 16 20 | 3, 3, 2, 2 | | |
| | | | | | | | 919 | E | + 0 20 49 | 3, 3, 3, 3 | | |
| | | | | | | | 920 | W | + 4 22 27 | 3, 3, 2 | 29·9 | 45 |
| 22 | | | | | | | 921 | E | + 1 27 37 | 3, 1, 1 | 30·2 | 48 |
| | | | | | | | 922 | E | + 1 49 43 | 3, 3, 2, 2 | | |
| 23 | 5387 | E | + 3 48 0 | 3, 3, 2, 2 | 30·3 | 36 | | | | | | |
| 24 | 5390 | E | + 5 5 36 | 3, 2, 2, 1¼ | 29·9 | 45 | 925 | W | + 4 20 8 | 2, 2, 1 | | |
| | | | | | | | 926 | W | + 4 55 55 | 2¼, 2 | 29·9 | 45 |
| 28 | | | | | | | 927 | E | − 0 32 55 | 2½, 3 | 29·3 | 36 |
| 29 | 5393 | E | + 4 51 7 | 3, 3, 2, 2 | 29·3 | 33 | 928 | E | + 1 29 54 | 3, 3, 2, 2 | 29·3 | 34 |
| | | | | | | | 930 | W | + 4 49 40 | 3, 3, 2, 2 | 29·3 | 33 |
| February 1 | 5394 | E | + 0 48 33 | 3, 3, 2, 2 | 29·5 | 33 | 931 | W | + 0 55 45 | 3, 3, 2, 2 | 29·5 | 33 |
| | | | | | | | 933 | W | + 2 17 35 | 3, 3, 2 | | |
| 3 | 5397 | E | + 4 40 36 | 3, 3, 2, 2 | | | 934 | W | + 5 0 29 | 3, 3 | 29·4 | 31 |
| | 5398 | E | + 4 59 8 | 3 | 29·4 | 31 | 935 | W | + 5 24 13 | 3, 2⅓, 2 | | |
| 5 | 5404 | E | + 4 43 7 | 3, 3, 2, 2 | 29·5 | 32 | 936 | W | + 4 8 10 | 3, 3, 2, 2 | | |
| | | | | | | | 937 | W | + 4 32 34 | 3, 3, 2, 2 | 29·5 | 32 |
| 6 | 5407 | W | + 1 13 58 | 3, 3, 2, 2 | 29·7 | 34 | 938 | W | − 0 45 4 | 3, 3, 2, 2 | | |
| | | | | | | | 939 | W | − 0 19 47 | 3, 3, 2, 2 | | |
| | | | | | | | 940 | W | + 0 26 58 | 2, 2 | 29·7 | 34 |
| 11 | 5408 | W | − 0 20 10 | 3, 3, 2, 2 | 30·2 | 32 | 941 | W | − 0 25 33 | 3, 3, 2, 2 | 30·2 | 32 |
| | 5409 | W | + 0 13 39 | 3, 3, 2, 2 | 30·2 | 32 | 942 | W | − 0 1 54 | 3, 3, 2, 2 | | |
| | 5412 | E | + 4 8 15 | 3, 3, 2, 2 | | | 943 | W | + 3 21 41 | 3, 2, 2 | | |
| | 5413 | E | + 4 44 13 | 3, 3, 2, 2 | 30·2 | 30 | 944 | W | + 4 27 7 | 3, 3, 2, 2 | 30·2 | 30 |
| | | | | | | | 945 | W | + 4 58 55 | 3, 3, 2 | | |
| 12 | 5414 | W | − 0 33 43 | 3, 3, 2, 2 | 30·1 | 34 | 946 | W | + 0 6 18 | 3, 3, 2, 2 | 30·1 | 34 |
| | 5415 | W | − 0 13 20 | 3, 2 | | | 947 | W | + 0 26 8 | 3, 2, 2 | | |
| | 5416 | W | + 0 6 36 | 3, 3, 2, 2 | | | 948 | W | + 0 47 18 | 3, 3, 2, 2 | | |

TABLE I.—List of Photographs of Eros.

| Date. | Astrographic 13-inch Refractor. | | | | | | Thompson 26-inch Refractor. | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | No. | Position of Telescope. | Hour Angle West. | Exposures. | Barometer. | Thermometer. | No. | Position of Telescope. | Hour Angle West. | Exposures. | Barometer. | Thermometer. |
| 1901. | | | h m s | m m m m | in. | ° | | | h m s | m m m m | in. | ° |
| February 13 | 5420 | W | − 0 24 5 | 3, 3, 2, 2 | | | 949 | W | + 1 35 1 | 3, 3½, 2, 2 | 30·3 | 28 |
| | 5421 | E | + 1 31 0 | 3, 3, 2, 2 | 30·3 | 28 | | | | | | |
| | 5422 | E | + 1 50 33 | 3, 3, 2, 2 | | | | | | | | |
| | 5426 | E | + 4 11 26 | 3, 3, 2, 2 | | | | | | | | |
| | 5427 | E | + 4 32 20 | 3, 3, 2, 2 | 30·3 | 26 | | | | | | |
| 14 | 5428 | E | + 3 37 41 | 3, 3, 2, 2 | 30·3 | 30 | 952 | W | + 3 50 26 | 3, 3, 2, 2 | 30·3 | 30 |
| 15 | 5429 | W | − 0 17 35 | 3, 3, 2, 2 | | | | | | | | |
| | 5430 | W | + 0 8 9 | 3, 3, 2, 2 | | | | | | | | |
| | 5431 | W | + 0 41 15 | 3, 3, 2, 2 | 30·4 | 26 | | | | | | |
| 17 | 5434 | E | + 2 45 39 | 3, 2, 2 | 30·2 | 34 | 954 | W | + 2 41 31 | 3, 3, 2, 2 | 30·2 | 34 |
| | | | | | | | 955 | W | + 3 2 30 | 3 | | |
| 20 | 5436 | W | + 0 21 21 | 3, 3, 2, 2 | 30·1 | 30 | 958 | W | + 0 30 39 | 3, 2 | 30·1 | 30 |
| | 5438 | W | + 1 33 16 | 3, 3, 2, 2 | 30·1 | 29 | 959 | W | + 1 31 53 | 3¼, 3, 2, 2 | 30·1 | 29 |
| | 5441 | E | + 2 51 1 | 3, 3 | | | | | | | | |
| 25 | 5452 | E | + 3 52 55 | 3, 3 | 29·5 | 41 | | | | | | |

TABLE II.—Measured Co-ordinates and Residuals, Astrographic 13-inch Refractor.

| Date and Plate No. | Reference Stars. | | | | | | | Comparison Stars. | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | No. in B.D. | x. | Refraction Correction applied. | y. | Refraction Correction applied. | Residuals C—O. | | No. | x. | Refraction Correction applied. | y. | Refraction Correction applied. | Residuals. | |
| | | | | | | x. | y. | | | | | | x. | y. |
| 1900. | ° | ″ | ″ | ″ | ″ | ″ | ″ | | ″ | ″ | ″ | ″ | ″ | ″ |
| October 1 | 44 573 | 1578·59 | +·01 | 4656·90 | −·01 | +·05 | −·21 | 166 | 3015·69 | ·00 | 5476·46 | ·00 | +·09 | +·02 |
| 5126 | 45 660 | 2122·72 | +·01 | 6332·99 | −·01 | +·35 | −·16 | 171 | 3300·82 | ·00 | 3477·21 | ·00 | −·02 | −·15 |
| | 44 577 | 2381·78 | +·01 | 3986·47 | ·00 | +·04 | −·21 | 172 | 3335·09 | ·00 | 4230·37 | ·00 | +·07 | −·13 |
| | 44 582 | 3703·69 | ·00 | 4490·90 | ·00 | +·16 | +·25 | 177 | 3954·29 | ·00 | 6649·52 | −·01 | +·04† | +·19† |
| | 45 665 | 4295·43 | ·00 | 6054·26 | ·00 | +·15 | +·12 | 182 | 4754·86 | ·00 | 6485·97 | ·00 | +·04† | −·03† |
| | 43 586 | 4361·25 | +·01 | 728·68 | −·01 | +·49* | +·12* | 184 | 4870·65 | ·00 | 5372·62 | ·00 | −·03 | −·64 |
| | 45 667 | 4391·21 | +·01 | 6904·29 | −·01 | −·05 | +·08 | 44° 591 | 5002·51 | ·00 | 3260·08 | ·00 | −·04 | −·18 |
| | 45 669 | 4876·06 | ·00 | 6600·44 | ·00 | −·11 | −·02 | 188 | 5327·28 | ·00 | 4832·77 | ·00 | +·06 | −·17 |
| | 44 591 | 5002·51 | ·00 | 3260·08 | ·00 | −·25 | −·11 | | | | | | | |
| | 44 593 | 5112·37 | ·00 | 2666·43 | ·00 | −·23 | +·22 | | | | | Mean | +·02 | −·11 |
| | 45 679 | 7609·25 | +·02 | 6120·24 | ·00 | −·35* | −·39* | | | | | | | |
| | 44 598 | 7805·83 | +·02 | 3036·80 | −·01 | −·26* | +·31* | | | | | | | |
| | Eros | 4223·08 | ·00 | 4336·37 | ·00 | ... | ... | | | | | | | |
| October 2 | 44 573 | 1049·27 | +·04 | 3633·13 | −·02 | +·07 | −·09 | 166 | 2488·71 | +·01 | 4448·95 | −·01 | ·00 | +·03 |
| 5129 | 45 660 | 1598·36 | +·03 | 5307·97 | −·02 | +·37 | −·45 | 171 | 2767·72 | +·01 | 2449·04 | −·01 | +·07† | +·04† |
| | 44 577 | 1850·16 | +·02 | 2960·67 | −·01 | +·27 | −·11 | 172 | 2804·46 | +·01 | 3201·99 | ·00 | −·11 | +·05 |
| | 45 662 | 3094·29 | +·03 | 7057·04 | −·03 | +·12 | +·34 | 177 | 3430·73 | +·01 | 5619·66 | −·01 | −·17 | −·15 |
| | 44 582 | 3173·56 | ·00 | 3461·87 | ·00 | +·23 | +·05 | 182 | 4230·41 | ·00 | 5453·64 | ·00 | +·07 | +·01 |
| | 45 665 | 3769·75 | ·00 | 5023·62 | ·00 | +·27 | −·25 | 184 | 4342·84 | ·00 | 4339·95 | ·00 | +·10 | +·15 |
| | 45 667 | 3867·86 | +·01 | 5872·95 | −·01 | +·22 | −·05 | 44° 591 | 4468·60 | +·01 | 2227·24 | −·01 | −·03 | −·17 |
| | 45 669 | 4352·07 | ·00 | 5567·94 | ·00 | −·21 | −·19 | 188 | 4797·80 | ·00 | 3799·24 | ·00 | +·24 | −·15 |
| | 44 591 | 4468·60 | +·01 | 2227·24 | −·01 | −·21 | +·21 | | | | | | | |
| | 44 593 | 4576·97 | +·02 | 1633·44 | −·02 | −·44 | +·40 | | | | | Mean | +·01 | −·03 |
| | 45 679 | 7082·99 | +·03 | 5080·37 | −·01 | −·31 | −·31 | | | | | | | |
| | 44 598 | 7270·86 | +·06 | 1996·73 | −·05 | −·42* | +·55* | | | | | | | |
| | Eros | 3748·57 | ·00 | 4523·28 | ·00 | ... | ... | | | | | | | |
| October 2 | 44 573 | 1042·03 | +·03 | 3632·00 | −·01 | −·14 | −·04 | 166 | 2481·16 | +·01 | 4448·13 | ·00 | +·02 | +·01 |
| 5130 | 45 660 | 1590·58 | +·02 | 5307·03 | −·01 | +·29 | −·40 | 171 | 2760·87 | +·01 | 2447·98 | ·00 | −·03† | +·15† |
| | 44 577 | 1843·25 | +·01 | 2959·81 | ·00 | −·03 | −·28 | 172 | 2797·33 | +·01 | 3201·08 | ·00 | −·14 | +·07 |
| | 45 662 | 3085·83 | +·02 | 7056·58 | −·02 | +·35 | +·21 | 177 | 3422·71 | +·01 | 5618·80 | ·00 | +·07 | +·06 |
| | 44 582 | 3166·42 | ·00 | 3461·01 | ·00 | +·12 | +·08 | 182 | 4222·79 | ·00 | 5452·96 | ·00 | ·00 | +·13 |
| | 45 665 | 3762·12 | ·00 | 5022·75 | ·00 | +·27 | −·03 | 184 | 4335·50 | ·00 | 4339·46 | ·00 | +·05 | +·01 |
| | 45 667 | 3860·36 | +·01 | 5872·27 | ·00 | −·12 | +·05 | 44° 591 | 4461·79 | +·01 | 2226·61 | −·01 | −·01 | +·03 |
| | 45 669 | 4344·13 | ·00 | 5567·29 | ·00 | −·01 | −·08 | 188 | 4790·79 | ·00 | 3798·47 | ·00 | +·06 | ·00 |
| | 44 591 | 4461·79 | +·01 | 2226·61 | −·01 | −·22 | +·07 | | | | | | | |
| | 44 593 | 4570·05 | +·01 | 1632·71 | −·01 | −·17 | +·34 | | | | | Mean | +·01 | +·04 |
| | 45 679 | 7075·58 | +·02 | 5080·19 | −·01 | −·30 | −·38 | | | | | | | |
| | 44 598 | 7263·93 | +·04 | 1996·26 | −·03 | −·06* | +·58* | | | | | | | |
| | Eros | 3741·86 | ·00 | 4563·27 | ·00 | ... | ... | | | | | | | |
| October 2 | 44 573 | 1530·87 | +·01 | 3318·27 | ·00 | +·24 | −·05 | 166 | 2968·41 | ·00 | 4137·67 | ·00 | −·02 | +·05 |
| 5131 | 45 660 | 2075·35 | +·01 | 4994·71 | −·01 | +·75 | −·57 | 171 | 3252·67 | ·00 | 2137·97 | ·00 | +·14† | +·19† |
| | 44 577 | 2333·64 | +·01 | 2647·72 | ·00 | +·41 | −·15 | 172 | 3287·36 | ·00 | 2891·26 | ·00 | +·04 | +·12 |
| | 45 662 | 3566·87 | +·01 | 6747·88 | −·01 | +·40 | −·13 | 177 | 3907·25 | ·00 | 5310·72 | ·00 | ·00 | −·12 |
| | 44 582 | 3655·98 | ·00 | 3152·05 | ·00 | +·27 | +·10 | 182 | 4707·67 | ·00 | 5146·95 | ·00 | +·03 | −·27 |
| | 45 665 | 4247·86 | ·00 | 4715·31 | ·00 | +·53 | −·11 | 184 | 4823·14 | ·00 | 4033·40 | ·00 | ·00 | −·13 |

* Not used in forming the finally adopted values of *c.* and *f.* (Table IV.), the star being more than 55′ from the centre of the plate.
† Not used in forming the Mean Correction for Comparison Stars (Table X.), the star being more than 25′ from the centre of the plate.
The number given in column 9 is the reference number assigned to the comparison stars in Tables VIII. and IX.

### TABLE II.—Measured Co-ordinates and Residuals, Astrographic 13-inch Refractor.

| Date and Plate No. | Reference Stars. | | | | | | | Comparison Stars. | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | No. in B.D. | x. | Refraction Correction applied. | y. | Refraction Correction applied. | Residuals C—O. | | No. | x. | Refraction Correction applied. | y. | Refraction Correction applied. | Residuals. | |
| | | | | | | x. | y. | | | | | | x. | y. |
| 1900. | ° | ″ | ″ | ″ | ″ | ″ | ″ | | ″ | ″ | ″ | ″ | ″ | ″ |
| October 2 | 45 667 | 4343·93 | ·00 | 5565·20 | ·00 | +·26 | −·13 | 44° 591 | 4954·57 | +·01 | 1920·16 | −·01 | −·10 | +·41 |
| 5131—*contd.* | 45 669 | 4828·95 | ·00 | 5261·39 | ·00 | −·10 | −·35 | 188 | 5279·81 | ·00 | 3493·28 | ·00 | −·34 | −·01 |
| | 44 591 | 4954·57 | +·01 | 1920·16 | −·01 | −·22 | +·41 | | | | | | | |
| | 44 593 | 5064·78 | +·01 | 1326·42 | −·01 | −·70 | +·72 | | | | | Mean | −·06 | +·01 |
| | 45 679 | 7562·33 | +·02 | 4780·45 | −·01 | −·85 | −·62 | | | | | | | |
| | 44 598 | 7758·62 | +·04 | 1696·16 | −·03 | −·94* | +·85* | | | | | | | |
| | Eros | 4229·20 | ·00 | 4313·19 | ·00 | ... | ... | | | | | | | |
| October 2 | 44 573 | 1532·16 | ·00 | 3268·64 | ·00 | +·08 | −·42 | 166 | 2969·81 | ·00 | 4087·42 | ·00 | +·10 | −·09 |
| 5133 | 45 660 | 2077·52 | ·00 | 4944·59 | ·00 | +·28 | −·55 | 171 | 3253·86 | ·00 | 2087·87 | ·00 | −·14† | −·25† |
| | 44 577 | 2335·00 | ·00 | 2597·67 | ·00 | +·04 | −·35 | 172 | 3288·39 | ·00 | 2840·82 | ·00 | +·15 | +·04 |
| | 45 662 | 3569·28 | ·00 | 6697·02 | ·00 | +·40 | +·24 | 177 | 3909·14 | ·00 | 5260·08 | ·00 | +·09 | −·11 |
| | 44 582 | 3657·34 | ·00 | 3101·50 | ·00 | +·17 | +·02 | 182 | 4709·64 | ·00 | 5095·82 | ·00 | +·07 | −·02 |
| | 45 665 | 4249·72 | ·00 | 4664·58 | ·00 | +·49 | −·16 | 184 | 4824·65 | ·00 | 3982·31 | ·00 | +·14 | +·01 |
| | 45 667 | 4345·96 | ·00 | 5514·16 | ·00 | +·32 | +·13 | 44° 591 | 4955·38 | ·00 | 1869·49 | ·00 | +·08 | +·03 |
| | 45 669 | 4830·81 | ·00 | 5210·27 | ·00 | +·09 | −·15 | 188 | 5281·28 | ·00 | 3441·94 | ·00 | −·28 | +·24 |
| | 44 591 | 4955·38 | ·00 | 1869·49 | ·00 | −·05 | +·02 | | | | | | | |
| | 44 593 | 5065·55 | ·00 | 1275·52 | ·00 | −·66 | +·51 | | | | | Mean | +·05 | +·01 |
| | 45 679 | 7563·87 | +·01 | 4728·34 | ·00 | −·25 | −·26 | | | | | | | |
| | 44 598 | 7759·78 | +·01 | 1644·10 | −·01 | −·94* | +·99* | | | | | | | |
| | Eros | 4229·55 | ·00 | 4399·31 | ·00 | ... | ... | | | | | | | |
| October 3 | 44 573 | 1553·62 | +·02 | 2099·43 | ·00 | −·04 | −·13 | 164 | 2773·16 | +·01 | 6469·96 | −·01 | +·04† | +·11† |
| 5134 | 45 660 | 2098·45 | +·01 | 3775·95 | ·00 | +·16 | −·65 | 166 | 2991·18 | ·00 | 2918·89 | ·00 | −·17 | −·02 |
| | 44 577 | 2356·53 | +·01 | 1428·81 | −·01 | +·02 | −·18 | 169 | 3110·96 | ·00 | 5281·68 | ·00 | −·12 | −·01 |
| | 46 638 | 2933·87 | +·02 | 7549·40 | −·02 | −·09 | (+·60) | 172 | 3310·08 | +·01 | 1672·68 | ·00 | −·05† | −·17† |
| | 45 662 | 3589·42 | ·00 | 5528·84 | ·00 | +·25 | +·02 | 177 | 3929·86 | ·00 | 4091·78 | ·00 | +·02 | +·02 |
| | 44 582 | 3678·76 | ·00 | 1933·15 | ·00 | ·00 | +·20 | 182 | 4730·22 | ·00 | 3927·79 | ·00 | +·03 | +·14 |
| | 45 665 | 4270·51 | ·00 | 3496·39 | ·00 | +·34 | +·09 | 184 | 4845·87 | ·00 | 2814·42 | ·00 | −·13 | −·18 |
| | 45 667 | 4366·33 | ·00 | 4346·28 | ·00 | +·27 | +·05 | 186 | 5257·60 | +·01 | 6894·01 | −·01 | −·08† | +·25† |
| | 45 669 | 4851·43 | ·00 | 4042·48 | ·00 | −·15 | −·15 | 188 | 5302·19 | +·01 | 2274·46 | −·01 | +·25† | +·09† |
| | 46 648 | 4888·64 | +·01 | 7123·92 | −·01 | −·23 | +·36 | 191 | 5762·79 | ·00 | 5705·94 | ·00 | −·23 | +·19 |
| | 44 591 | 4977·21 | +·01 | 701·72 | −·02 | −·24 | −·02 | | | | | | | |
| | 45 679 | 7584·19 | +·03 | 3561·47 | −·01 | −·35 | −·14 | | | | | Mean | −·10 | +·02 |
| | Eros | 4269·83 | ·00 | 4409·37 | ·00 | ... | ... | | | | | | | |
| October 4 | 46 628 | 1448·65 | +·13 | 7177·19 | −·13 | −·65* | +·77* | 164 | 2783·55 | +·02 | 5118·06 | −·02 | −·01 | −·35 |
| 5138 | 45 660 | 2091·83 | +·02 | 2427·90 | −·01 | +·44 | −·28 | 166 | 2978·83 | +·02 | 1566·10 | −·03 | +·15† | +·46† |
| | 46 638 | 2950·96 | +·04 | 6196·33 | −·04 | −·07 | −·25 | 165 | 3045·63 | +·06 | 6979·74 | −·07 | −·23† | +·13† |
| | 46 641 | 3350·11 | +·05 | 7109·39 | −·07 | −·31 | +·18 | 169 | 3113·39 | +·01 | 3927·90 | ·00 | +·21 | +·02 |
| | 45 662 | 3593·46 | ·00 | 4172·57 | ·00 | +·43 | −·33 | 177 | 3924·76 | +·01 | 2733·66 | −·01 | +·10 | +·26 |
| | 46 644 | 4037·01 | +·06 | 7811·73 | −·07 | +·68* | +·14* | 182 | 4724·15 | +·02 | 2565·46 | −·02 | −·10 | +·17 |
| | 45 665 | 4261·87 | +·02 | 2136·38 | −·03 | +·28 | +·38 | 183 | 4757·39 | +·02 | 6732·40 | −·03 | −·32† | −·42† |
| | 45 667 | 4363·19 | +·01 | 2985·83 | −·01 | ·00 | −·05 | 184 | 4832·77 | +·04 | 1451·61 | −·06 | −·16† | +·25† |
| | 45 669 | 4845·91 | +·02 | 2679·58 | −·02 | −·09 | −·35 | 186 | 5269·61 | ·00 | 5528·01 | ·00 | −·03 | −·20 |
| | 46 648 | 4902·19 | ·00 | 5759·49 | ·00 | −·11 | +·17 | 191 | 5767·11 | +·01 | 4337·52 | −·01 | +·09 | −·13 |
| | 46 652 | 6312·96 | +·02 | 6921·68 | −·02 | −·40 | −·30 | | | | | | | |
| | 45 679 | 7574·87 | +·14 | 2183·23 | −·11 | −·20* | −·13* | | | | | Mean | +·04 | −·04 |
| | Eros | 4216·58 | ·00 | 4217·65 | ·00 | ... | ... | | | | | | | |

* Not used in forming the finally adopted values of *c.* and *f.* (Table IV.), the star being more than 55′ from the centre of the plate.
† Not used in forming the Mean Correction for Comparison Stars (Table X.), the star being more than 25′ from the centre of the plate.
The number given in column 9 is the reference number assigned to the comparison stars in Tables VIII. and IX.

## TABLE II.—Measured Co-ordinates and Residuals, Astrographic 13-inch Refractor.

| Date and Plate No. | Reference Stars. | | | | | | | Comparison Stars. | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | No. in B.D. | x. | Refraction Correction applied. | y. | Refraction Correction applied. | Residuals. C—O. | | No. | x. | Refraction Correction applied. | y. | Refraction Correction applied. | Residuals | |
| | | | | | | x. | y. | | | | | | x. | y. |
| 1900. | ° | " | " | " | " | " | " | | " | " | " | " | " | " |
| October 4 | 46 628 | 1427·33 | +·08 | 7136·22 | −·08 | −·48* | +·83* | 164 | 2775·07 | +·02 | 5084·41 | −·01 | +·24 | −·07 |
| 5139 | 45 660 | 2100·43 | +·01 | 2390·13 | −·01 | +·17 | −·45 | 166 | 2992·91 | +·01 | 1533·73 | −·02 | −·14† | ·00† |
| | 46 638 | 2935·74 | +·03 | 6164·07 | −·02 | +·23 | −·20 | 165 | 3025·65 | +·03 | 6948·25 | −·03 | +·01† | +·12† |
| | 46 641 | 3329·48 | +·03 | 7079·66 | −·04 | −·20 | +·22 | 169 | 3112·87 | ·00 | 3896·31 | ·00 | −·10 | −·01 |
| | 45 662 | 3591·34 | ·00 | 4143·57 | ·00 | +·23 | −·08 | 177 | 3931·62 | ·00 | 2706·99 | ·00 | −·11 | −·10 |
| | 46 644 | 4012·27 | +·04 | 7786·12 | −·05 | +·63* | +·66* | 182 | 4731·99 | +·01 | 2543·45 | −·01 | −·15 | −·14 |
| | 45 665 | 4272·23 | +·01 | 2111·83 | −·01 | +·30 | −·21 | 183 | 4739·25 | +·01 | 6710·81 | −·02 | +·31† | −·23† |
| | 45 667 | 4368·39 | +·01 | 2961·53 | −·01 | −·08 | −·13 | 184 | 4847·28 | +·02 | 1430·03 | −·03 | +·02† | −·04† |
| | 45 669 | 4852·84 | +·01 | 2657·99 | −·01 | +·04 | −·36 | 186 | 5258·95 | ·00 | 5509·37 | ·00 | +·12 | −·14 |
| | 46 648 | 4890·28 | ·00 | 5738·50 | ·00 | −·19 | +·45 | 191 | 5763·99 | +·01 | 4321·63 | −·01 | +·13 | −·06 |
| | 46 652 | 6294·02 | +·02 | 6909·40 | −·02 | −·52 | −·18 | | | | | | | |
| | 45 679 | 7585·29 | +·09 | 2178·14 | −·07 | −·18* | −·55* | | | | | Mean | +·02 | −·09 |
| | Eros | 4257·73 | ·00 | 4232·75 | ·00 | … | … | | | | | | | |
| October 5 | 45 660 | 2163·87 | +·02 | 1079·32 | −·02 | +·13* | −1·13* | 164 | 2838·33 | +·01 | 3773·43 | −·01 | −·49 | −·25 |
| 5141 | 46 638 | 2998·22 | +·01 | 4853·08 | −·01 | −·10 | −·16 | 165 | 3087·70 | +·01 | 5637·27 | −·01 | −·14 | ·00 |
| | 47 702 | 3307·44 | +·02 | 7235·27 | −·03 | −·35 | +1·25 | 169 | 3175·82 | ·00 | 2585·45 | ·00 | −·07 | −·27 |
| | 46 641 | 3391·43 | +·01 | 5768·42 | −·01 | −·34 | +·58 | 177 | 3994·91 | +·02 | 1396·59 | −·02 | +·15† | −·73† |
| | 45 662 | 3654·24 | ·00 | 2833·02 | ·00 | +·23 | −·34 | 182 | 4795·21 | +·02 | 1232·92 | −·03 | +·27† | −·47† |
| | 46 644 | 4074·09 | +·01 | 6475·17 | −·01 | +·32 | +·48 | 183 | 4801·19 | ·00 | 5399·84 | ·00 | +·31 | +·15 |
| | 45 665 | 4336·02 | +·02 | 801·24 | −·03 | +·25 | −·53 | 186 | 5321·33 | ·00 | 4199·21 | ·00 | +·17 | −·37 |
| | 45 667 | 4431·64 | +·01 | 1651·11 | −·02 | +·08 | −·41 | 187 | 5322·80 | +·01 | 6457·64 | −·01 | +·61† | +·52† |
| | 45 669 | 4916·58 | +·03 | 1347·61 | −·02 | −·12 | −·60 | 191 | 5826·97 | +·02 | 3011·43 | −·01 | ·00 | −·17 |
| | 46 648 | 4952·60 | ·00 | 4428·33 | ·00 | −·21 | +·26 | | | | | | | |
| | 46 652 | 6355·20 | +·02 | 5598·68 | −·01 | +·09 | +·57 | | | | | Mean | −·04 | −·15 |
| | Eros | 4267·13 | ·00 | 4252·26 | ·00 | … | … | | | | | | | |
| October 7 | 47 692 | 1867·90 | +·03 | 6752·76 | −·02 | +·38* | −·24* | 156 | 2976·29 | +·01 | 5872·34 | −·01 | +·07 | +·13 |
| 5142 | 46 628 | 2076·01 | +·01 | 3474·16 | ·00 | −·23 | −·03 | 164 | 3430·86 | +·01 | 1425·30 | −·01 | +·20† | +·04† |
| | 47 698 | 3300·11 | +·01 | 6946·51 | −·01 | +·06 | −·18 | 165 | 3675·12 | ·00 | 3290·59 | ·00 | +·11 | −·19 |
| | 46 638 | 3588·01 | ·00 | 2505·98 | ·00 | +·20 | −·29 | 170 | 3866·84 | ·00 | 5231·45 | ·00 | +·02 | +·10 |
| | 47 702 | 3889·77 | ·00 | 4890·03 | ·00 | +·19 | +·14 | 174 | 4055·51 | +·01 | 7109·14 | −·01 | −·16† | −·08† |
| | 46 641 | 3978·60 | ·00 | 3422·69 | ·00 | −·20 | +·28 | 179 | 4817·53 | +·01 | 6878·81 | −·01 | +·03† | −·09† |
| | 47 709 | 4520·90 | +·01 | 6771·05 | −·01 | −·12 | −·17 | 183 | 5390·05 | +·01 | 3057·98 | −·01 | −·02 | +·03 |
| | 46 644 | 4659·03 | ·00 | 4131·78 | ·00 | +·57 | −·22 | 47° 720 | 5900·99 | +·01 | 5949·13 | ·00 | +·21 | +·03 |
| | 47 711 | 4842·99 | +·01 | 7294·81 | −·01 | −·38 | +·09 | 187 | 5908·53 | +·01 | 4117·76 | ·00 | +·16 | −·05 |
| | 46 648 | 5544·33 | +·01 | 2086·43 | −·01 | −·30 | +·39 | 186 | 5913·93 | +·02 | 1857·98 | −·02 | −·05† | +·12† |
| | 47 720 | 5900·99 | +·01 | 5949·13 | ·00 | +·30 | −·08 | | | | | | | |
| | 46 652 | 6943·96 | +·02 | 3261·30 | −·01 | −·51 | +·33 | | | | | Mean | +·09 | +·01 |
| | Eros | 4626·17 | ·00 | 4560·23 | ·00 | … | … | | | | | | | |
| October 7 | 47 692 | 1496·90 | +·03 | 6406·62 | −·02 | +·37* | −·15* | 156 | 2603·77 | +·01 | 5523·96 | −·01 | −·24 | −·05 |
| 5143 | 46 628 | 1697·80 | +·01 | 3127·67 | ·00 | −·06 | −·16 | 164 | 3048·80 | +·01 | 1075·52 | −·01 | −·08† | +·08† |
| | 47 698 | 2929·48 | +·01 | 6597·05 | −·01 | +·16 | +·03 | 165 | 3296·88 | ·00 | 2940·50 | ·00 | −·02 | −·24 |
| | 46 638 | 3207·76 | ·00 | 2156·02 | ·00 | +·39 | −·33 | 170 | 3492·51 | ·00 | 4881·10 | ·00 | +·14 | −·05 |
| | 47 702 | 3515·07 | ·00 | 4539·49 | ·00 | −·01 | +·12 | 174 | 3685·35 | +·01 | 6758·18 | −·01 | −·18† | −·04† |
| | 46 641 | 3600·81 | ·00 | 3072·00 | ·00 | −·44 | +·15 | 179 | 4446·78 | +·01 | 6526·05 | −·01 | +·12† | +·06† |
| | 47 709 | 4149·97 | +·01 | 6418·88 | −·01 | −·07 | +·03 | 183 | 5011·02 | +·01 | 2704·15 | −·01 | +·26 | −·09 |
| | 46 644 | 4282·53 | ·00 | 3779·56 | ·00 | +·58 | −·29 | 47° 720 | 5528·56 | ·00 | 5594·32 | ·00 | +·01 | −·18 |

* Not used in forming the finally adopted values of *c.* and *f.* (Table IV.), the star being more than 55′ from the centre of the plate.
† Not used in forming the Mean Correction for Comparison Stars (Table X.), the star being more than 25′ from the centre of the plate.
The number given in column 9 is the reference number assigned to the comparison stars in Tables VIII. and IX.

TABLE II.—Measured Co-ordinates and Residuals, Astrographic 13-inch Refractor.

| Date and Plate No. | Reference Stars. | | | | | | | Comparison Stars. | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | No. in B.D. | x. | Refraction Correction applied. | y. | Refraction Correction applied. | Residuals C—O. | | No. | x. | Refraction Correction applied. | y. | Refraction Correction applied. | Residuals. | |
| | | | | | | x. | y. | | | | | | x. | y. |
| 1900. | ° | " | " | " | " | " | " | | " | " | " | " | " | " |
| October 7<br>5143—*contd.* | 47 711 | 4472·93 | +·01 | 6942·01 | −·01 | −·08 | +·19 | 187 | 5532·12 | ·00 | 3762·82 | ·00 | +·07 | −·15 |
| | 46 648 | 5163·59 | +·01 | 1732·31 | −·01 | −·36 | +·17 | 186 | 5532·48 | +·01 | 1503·19 | −·01 | +·12† | −·23† |
| | 47 720 | 5528·56 | ·00 | 5594·32 | ·00 | +·11 | −·30 | | | | | | | |
| | 46 652 | 6565·75 | +·02 | 2903·79 | −·01 | −·56 | +·49 | | | | | Mean | +·04 | −·13 |
| | Eros | 4245·94 | ·00 | 4240·75 | ·00 | ... | ... | | | | | | | |
| October 7<br>5145 | 47 692 | 1500·19 | +·01 | 6347·12 | −·01 | +·56* | −·17* | 156 | 2602·95 | ·00 | 5459·31 | ·00 | +·11 | ·00 |
| | 46 628 | 1686·26 | +·01 | 3067·23 | ·00 | +·17 | −·15 | 164 | 3028·40 | ·00 | 1009·02 | ·00 | −·18† | −·04† |
| | 47 698 | 2933·99 | +·01 | 6531·23 | ·00 | +·05 | −·26 | 165 | 3284·76 | ·00 | 2872·48 | ·00 | +·03 | ·00 |
| | 46 638 | 3192·25 | ·00 | 2088·35 | ·00 | +·26 | −·01 | 170 | 3489·35 | ·00 | 4812·37 | ·00 | +·01 | +·01 |
| | 47 702 | 3510·30 | ·00 | 4470·90 | ·00 | −·10 | −·06 | 174 | 3690·07 | ·00 | 6688·56 | ·00 | +·27† | ·00† |
| | 46 641 | 3589·35 | ·00 | 3002·78 | ·00 | −·46 | +·21 | 179 | 4450·71 | ·00 | 6453·10 | ·00 | +·35† | −·08† |
| | 47 709 | 4153·42 | ·00 | 6347·38 | ·00 | +·13 | −·16 | 183 | 4998·27 | ·00 | 2628·41 | ·00 | −·05 | ·00 |
| | 46 644 | 4274·26 | ·00 | 3706·94 | ·00 | +·59 | +·04 | 186 | 5514·22 | +·01 | 1424·77 | −·01 | −·08† | +·15† |
| | 47 711 | 4479·09 | ·00 | 6869·16 | ·00 | −·21 | −·15 | 187 | 5523·86 | ·00 | 3684·86 | ·00 | +·07 | −·23 |
| | 46 648 | 5146·10 | +·01 | 1655·65 | −·01 | −·33 | +·50 | 47° 720 | 5528·51 | ·00 | 5516·23 | ·00 | +·06 | −·12 |
| | 47 720 | 5528·51 | ·00 | 5516·23 | ·00 | +·14 | −·23 | | | | | | | |
| | 46 652 | 6553·86 | +·01 | 2821·05 | ·00 | −·79 | +·45 | | | | | Mean | +·04 | +·06 |
| | Eros | 4230·24 | ·00 | 4235·21 | ·00 | ... | ... | | | | | | | |
| October 7<br>5146 | 47 692 | 1506·05 | +·01 | 6310·50 | −·01 | +·16* | −·21* | 156 | 2607·47 | ·00 | 5421·57 | ·00 | +·11 | −·08 |
| | 46 628 | 1688·49 | +·01 | 3030·20 | ·00 | −·01 | +·02 | 164 | 3028·35 | +·01 | 970·49 | ·00 | −·23† | +·20† |
| | 47 698 | 2939·72 | +·01 | 6493·14 | ·00 | −·02 | −·34 | 165 | 3286·44 | ·00 | 2834·05 | ·00 | +·20 | −·11 |
| | 46 638 | 3193·31 | ·00 | 2050·05 | ·00 | +·26 | −·16 | 170 | 3493·38 | ·00 | 4773·72 | ·00 | −·16 | −·11 |
| | 47 702 | 3513·84 | ·00 | 4431·88 | ·00 | −·11 | +·18 | 174 | 3696·09 | ·00 | 6649·57 | ·00 | +·08† | +·04† |
| | 46 641 | 3590·96 | ·00 | 2963·86 | ·00 | −·07 | +·27 | 179 | 4456·68 | ·00 | 6413·34 | ·00 | −·04† | −·08† |
| | 47 709 | 4158·79 | ·00 | 6307·70 | ·00 | +·26 | +·06 | 183 | 4999·93 | ·00 | 2588·08 | ·00 | −·11 | −·02 |
| | 46 644 | 4276·93 | ·00 | 3667·57 | ·00 | +·67 | −·17 | 186 | 5514·49 | +·01 | 1384·00 | −·01 | +·01† | +·04† |
| | 47 711 | 4485·05 | ·00 | 6829·39 | ·00 | −·11 | −·17 | 187 | 5526·61 | ·00 | 3643·77 | ·00 | +·03 | −·04 |
| | 46 648 | 5146·70 | +·01 | 1615·23 | ·00 | −·30 | +·42 | 47° 720 | 5533·18 | ·00 | 5475·37 | ·00 | ·00 | −·16 |
| | 47 720 | 5533·18 | ·00 | 5475·37 | ·00 | +·11 | −·27 | | | | | | | |
| | 46 652 | 6555·79 | +·01 | 2779·20 | ·00 | −·87 | +·33 | | | | | Mean | +·01 | −·09 |
| | Eros | 4228·47 | ·00 | 4229·28 | ·00 | ... | ... | | | | | | | |
| October 8<br>5148 | 47 692 | 1641·54 | +·04 | 5289·07 | −·03 | +·66 | −·39 | 156 | 2749·01 | +·01 | 4407·88 | −·01 | −·06 | −·18 |
| | 46 628 | 1845·57 | +·02 | 2010·73 | −·01 | −·20 | −·25 | 157 | 2788·18 | +·03 | 6515·37 | −·03 | −·24† | −·18† |
| | 47 698 | 3073·99 | +·01 | 5481·50 | −·01 | +·08 | −·45 | 165 | 3444·57 | +·01 | 1825·19 | −·01 | −·13† | +·08† |
| | 47 700 | 3317·20 | +·02 | 6406·92 | −·02 | +·15 | −·07 | 170 | 3638·45 | ·00 | 3766·15 | ·00 | +·07 | −·05 |
| | 47 702 | 3661·23 | ·00 | 3424·37 | ·00 | −·04 | +·38 | 174 | 3829·38 | +·01 | 5642·93 | −·01 | −·07 | +·09 |
| | 46 641 | 3748·04 | +·01 | 1957·31 | −·01 | −·25 | +·23 | 179 | 4591·21 | ·00 | 5412·14 | ·00 | −·13 | −·13 |
| | 47 709 | 4294·13 | ·00 | 5304·87 | ·00 | +·10 | −·37 | 183 | 5158·76 | +·03 | 1590·95 | −·03 | +·13† | +·29† |
| | 46 644 | 4429·23 | +·01 | 2665·18 | −·01 | +·59 | +·28 | 185 | 5272·13 | +·01 | 6780·80 | −·01 | −·29† | +·33† |
| | 47 711 | 4616·86 | ·00 | 5827·81 | −·01 | −·23 | +·24 | 47° 720 | 5673·75 | +·01 | 4481·56 | ·00 | −·36 | +·08 |
| | 47 720 | 5673·75 | +·01 | 4481·56 | ·00 | −·27 | −·03 | 187 | 5678·94 | +·02 | 2650·27 | −·02 | −·19 | +·16 |
| | 47 721 | 5797·64 | +·01 | 6311·32 | −·01 | −·16 | +·07 | | | | | | | |
| | 46 652 | 6712·92 | +·06 | 1793·06 | −·05 | −·48 | +·36 | | | | | Mean | −·12 | −·01. |
| | Eros | 4239·56 | ·00 | 4293·93 | ·00 | ... | ... | | | | | | | |

* Not used in forming the finally adopted values of *c.* and *f.* (Table IV.), the star being more than 55′ from the centre of the plate.
† Not used in forming the Mean Correction for Comparison Stars (Table X.), the star being more than 25′ from the centre of the plate.
The number given in column 9 is the reference number assigned to the comparison stars in Tables VIII. and IX.

### TABLE II.—Measured Cö-ordinates and Residuals, Astrographic 13-inch Refractor.

| Date and Plate No. | Reference Stars. | | | | | | | Comparison Stars. | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | No. in B.D. | x. | Refraction Correction applied. | y. | Refraction Correction applied. | Residuals C—O. | | No. | x. | Refraction Correction applied. | y. | Refraction Correction applied. | Residuals. | |
| | | | | | | x. | y. | | | | | | x. | y. |
| 1900. | ° | ″ | ″ | ″ | ″ | ″ | ″ | | ″ | ″ | ″ | ″ | ″ | ″ |
| October 8 | 47 692 | 1662·91 | +·01 | 5061·32 | ·00 | +·30 | −·26 | 156 | 2771·36 | ·00 | 4180·79 | ·00 | −·32 | −·38 |
| 5150 | 46 628 | 1869·55 | +·01 | 1782·41 | ·00 | −·16 | −·07 | 157 | 2808·13 | +·01 | 6288·15 | ·00 | +·02† | +·17† |
| | 47 698 | 3095·15 | ·00 | 5254·42 | ·00 | +·14 | −·32 | 165 | 3469·13 | ·00 | 1597·68 | ·00 | −·08† | +·12† |
| | 47 700 | 3337·63 | ·00 | 6180·10 | ·00 | +·16 | +·10 | 170 | 3661·33 | ·00 | 3538·96 | ·00 | +·09 | +·13 |
| | 47 702 | 3684·37 | ·00 | 3197·67 | ·00 | +·03 | +·01 | 174 | 3850·58 | ·00 | 5416·53 | ·00 | ·00 | −·07 |
| | 46 641 | 3772·64 | ·00 | 1730·12 | ·00 | −·28 | +·12 | 179 | 4613·01 | ·00 | 5185·64 | ·00 | −·25 | +·11 |
| | 47 709 | 4315·83 | ·00 | 5078·26 | ·00 | +·10 | −·19 | 183 | 5184·35 | +·01 | 1364·29 | −·01 | −·20† | +·20† |
| | 46 644 | 4453·32 | ·00 | 2438·52 | ·00 | +·59 | +·08 | 185 | 5292·71 | ·00 | 6555·57 | ·00 | −·26† | −·15† |
| | 47 711 | 4637·91 | ·00 | 5601·76 | ·00 | +·03 | +·11 | 47° 720 | 5696·25 | ·00 | 4256·02 | ·00 | −·06 | −·34 |
| | 47 720 | 5696·25 | ·00 | 4256·02 | ·00 | +·03 | −·45 | 187 | 5703·25 | ·00 | 2423·89 | ·00 | −·06 | +·23 |
| | 47 721 | 5818·84 | ·00 | 6085·57 | ·00 | −·19 | +·26 | | | | | | | |
| | 46 652 | 6738·67 | +·01 | 1566·81 | −·01 | −·75 | +·61 | | | | | Mean | −·10 | −·05 |
| | Eros | 4230·21 | ·00 | 4261·41 | ·00 | ... | ... | | | | | | | |
| October 8 | 47 692 | 1731·40 | ·00 | 5101·00 | ·00 | +·29 | −·20 | 156 | 2839·02 | ·00 | 4219·37 | ·00 | +·20 | +·30 |
| 5152 | 46 628 | 1936·42 | ·00 | 1821·72 | ·00 | +·15 | +·24 | 157 | 2877·02 | ·00 | 6327·40 | ·00 | +·15† | +·18† |
| | 47 698 | 3163·73 | ·00 | 5293·39 | ·00 | +·13 | −·15 | 165 | 3536·14 | ·00 | 1636·68 | ·00 | +·07† | +·05† |
| | 47 700 | 3406·75 | ·00 | 6219·39 | ·00 | +·04 | −·15 | 170 | 3729·56 | ·00 | 3577·40 | ·00 | −·19 | +·56 |
| | 47 702 | 3752·56 | ·00 | 3236·33 | ·00 | −·34 | +·21 | 174 | 3919·24 | ·00 | 5455·13 | ·00 | +·05 | +·13 |
| | 46 641 | 3839·97 | ·00 | 1769·13 | ·00 | −·38 | −·09 | 179 | 4681·34 | ·00 | 5223·96 | ·00 | +·06 | +·26 |
| | 47 709 | 4384·56 | ·00 | 5116·81 | ·00 | −·05 | −·14 | 183 | 5251·25 | ·00 | 1402·45 | ·00 | +·03† | +·24† |
| | 46 644 | 4520·95 | ·00 | 2477·06 | ·00 | +·51 | +·06 | 185 | 5361·29 | ·00 | 6593·70 | ·00 | +·37† | −·08† |
| | 47 711 | 4707·06 | ·00 | 5640·36 | ·00 | −·31 | −·03 | 47° 720 | 5764·09 | ·00 | 4293·67 | ·00 | +·40 | +·01 |
| | 47 720 | 5764·09 | ·00 | 4293·67 | ·00 | +·49 | −·10 | 187 | 5770·85 | ·00 | 2462·04 | ·00 | −·08 | +·07 |
| | 47 721 | 5887·64 | ·00 | 6123·59 | ·00 | +·06 | +·20 | | | | | | | |
| | 46 652 | 6805·84 | ·00 | 1604·77 | ·00 | −·64 | +·16 | | | | | Mean | +·07 | +·22 |
| | Eros | 4279·83 | ·00 | 4390·15 | ·00 | ... | ... | | | | | | | |
| October 10 | 47 692 | 2100·51 | +·01 | 2726·13 | −·01 | +·31 | −·09 | 156 | 3209·47 | +·01 | 1847·49 | −·01 | +·14 | +·27 |
| 5154 | 48 750 | 2114·40 | +·04 | 5659·51 | −·03 | −·04 | +·35 | 157 | 3243·55 | ·00 | 3955·45 | ·00 | +·09 | −·22 |
| | 48 752 | 2520·01 | +·06 | 7110·35 | −·05 | +·03 | −·09 | 158 | 3271·48 | +·03 | 6600·95 | −·03 | +·18† | +·12† |
| | 47 698 | 3532·00 | ·00 | 2922·22 | ·00 | +·17 | −·25 | 161 | 3420·82 | +·01 | 5060·48 | −·01 | (·00) | (·00) |
| | 47 700 | 3773·33 | ·00 | 3848·29 | ·00 | −·09 | ·00 | 174 | 4287·07 | ·00 | 3085·83 | ·00 | −·06 | −·05 |
| | 48 764 | 4369·95 | ·00 | 5387·48 | ·00 | +·16 | +·01 | 179 | 5049·44 | +·01 | 2856·75 | −·01 | −·12 | −·05 |
| | 47 709 | 4752·80 | +·01 | 2748·60 | −·01 | −·08 | −·09 | 181 | 5425·57 | ·00 | 5025·30 | ·00 | (·00) | (·00) |
| | 47 711 | 5074·11 | +·01 | 3272·63 | −·01 | −·28 | +·20 | 185 | 5726·44 | +·01 | 4227·50 | −·01 | +·20 | −·11 |
| | 48 770 | 5320·61 | +·01 | 7091·97 | −·02 | +·08 | −·35 | | | | | | | |
| | 48 777 | 5931·07 | +·01 | 5419·43 | ·00 | −·26 | −·08 | | | | | Mean | +·05 | −·03 |
| | 47 720 | 6134·18 | +·05 | 1928·67 | −·05 | −·11 | +·29 | | | | | | | |
| | 47 721 | 6253·31 | +·02 | 3758·99 | −·02 | +·11 | +·10 | | | | | | | |
| | Eros | 4250·52 | ·00 | 4240·54 | ·00 | ... | ... | | | | | | | |
| October 14 | 49 741 | 1171·06 | ·00 | 4435·62 | ·00 | +·46 | +·09 | 150 | 3697·31 | ·00 | 5309·56 | ·00 | −·04 | +·05 |
| 5160 | 49 743 | 1243·00 | ·00 | 4819·56 | ·00 | +·32 | +·21 | 151 | 3779·34 | ·00 | 4220·92 | ·00 | −·02 | +·10 |
| | 49 752 | 2621·72 | ·00 | 5774·38 | ·00 | −·28 | −·09 | 152 | 3982·74 | ·00 | 2737·96 | ·00 | ·00 | +·01 |
| | 49 753 | 2647·46 | ·00 | 6539·79 | ·00 | +·05 | +·03 | 154 | 4512·09 | ·00 | 5189·50 | ·00 | −·09 | +·02 |
| | 50 620 | 3390·77 | ·00 | 7008·66 | ·00 | −·15 | −·16 | 158 | 5015·12 | ·00 | 1589·93 | ·00 | −·15† | −·15† |
| | 48 750 | 3866·86 | ·00 | 637·37 | ·00 | −·13* | −·08* | 162 | 5352·14 | ·00 | 1794·86 | ·00 | (·00) | (·00) |
| | 50 627 | 4201·17 | ·00 | 6616·96 | ·00 | −·18 | −·07 | 163 | 5393·98 | ·00 | 3985·57 | ·00 | +·10 | +·03 |

* Not used in forming the finally adopted values of *c.* and *f.* (Table IV.), the star being more than 55′ from the centre of the plate.

† Not used in forming the Mean Correction for Comparison Stars (Table X.), the star being more than 25′ from the centre of the plate.

The number given in column 9 is the reference number assigned to the comparison stars in Tables VIII. and IX.

## TABLE II.—Measured Co-ordinates and Residuals, Astrographic 13-inch Refractor.

| Date and Plate No. | Reference Stars. | | | | | | | Comparison Stars. | | | | | | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| | No. in B.D. | *x*. | Refraction Correction applied. | *y*. | Refraction Correction applied. | Residuals C—O. *x*. | Residuals C—O. *y*. | No. | *x*. | Refraction Correction applied. | *y*. | Refraction Correction applied. | Residuals. *x*. | Residuals. *y*. |
| | ° | " | " | " | " | " | " | | " | " | " | " | " | " |
| 1900.<br>October 14<br>5160—*contd.* | 48 752 | 4258·23 | ·00 | 2091·75 | ·00 | −·11 | +·11 | 168 | 5718·21 | ·00 | 4952·75 | ·00 | −·08 | +·09 |
| | 49 773 | 5129·26 | ·00 | 4686·92 | ·00 | −·08 | +·16 | 176 | 6517·91 | ·00 | 3483·36 | ·00 | +·04† | +·05† |
| | 48 760 | 5344·39 | ·00 | 1598·23 | ·00 | −·13 | −·02 | | | | | | | |
| | 49 782 | 6236·79 | ·00 | 4475·39 | ·00 | +·53 | +·18 | | | | | Mean | −·03 | +·05 |
| | 48 770 | 7060·06 | ·00 | 2100·11 | ·00 | −·33* | −·32* | | | | | | | |
| | Eros | 4498·65 | ·00 | 4337·05 | ·00 | ... | ... | | | | | | | |
| October 14<br>5161 | 49 741 | 1191·44 | ·00 | 4435·53 | ·00 | +·48 | +·03 | 150 | 3718·88 | ·00 | 5305·74 | ·00 | +·07 | −·04 |
| | 49 743 | 1264·03 | ·00 | 4819·47 | ·00 | +·26 | +·03 | 151 | 3799·40 | ·00 | 4217·09 | ·00 | ·00 | −·10 |
| | 49 752 | 2644·13 | ·00 | 5772·17 | ·00 | −·31 | −·19 | 152 | 4000·52 | ·00 | 2733·56 | ·00 | +·12 | +·07 |
| | 49 753 | 2670·99 | ·00 | 6537·37 | ·00 | +·03 | +·10 | 154 | 4533·40 | ·00 | 5184·35 | ·00 | +·11 | +·05 |
| | 50 620 | 3414·81 | ·00 | 7005·27 | ·00 | ·00 | −·24 | 158 | 5031·22 | ·00 | 1583·89 | ·00 | −·03† | +·03† |
| | 48 750 | 3881·86 | ·00 | 633·14 | ·00 | −·29* | +·01* | 163 | 5413·81 | ·00 | 3979·15 | ·00 | +·01 | +·03 |
| | 50 627 | 4224·65 | ·00 | 6612·19 | ·00 | −·05 | +·05 | 168 | 5739·22 | ·00 | 4945·91 | ·00 | +·08 | +·04 |
| | 48 752 | 4275·15 | ·00 | 2087·11 | ·00 | −·06 | +·03 | 176 | 6536·91 | ·00 | 3475·39 | ·00 | +·06† | −·06† |
| | 49 773 | 5149·94 | ·00 | 4680·88 | ·00 | +·03 | +·27 | | | | | | | |
| | 48 760 | 5360·73 | ·00 | 1591·83 | ·00 | −·21 | +·04 | | | | | Mean | +·07 | +·01 |
| | 49 782 | 6257·41 | ·00 | 4467·57 | ·00 | +·40 | +·34 | | | | | | | |
| | 48 770 | 7076·99 | ·00 | 2091·40 | ·00 | −·25* | −·47* | | | | | | | |
| | Eros | 4505·66 | ·00 | 4362·44 | ·00 | ... | ... | | | | | | | |
| October 15<br>5162 | 49 741 | 1306·20 | +·03 | 3146·69 | −·01 | +·16 | +·02 | 150 | 3830·82 | ·00 | 4023·71 | ·00 | −·05 | −·02 |
| | 49 743 | 1377·99 | +·03 | 3531·00 | −·01 | −·11 | −·21 | 152 | 4118·30 | +·02 | 1452·82 | −·02 | −·15 | −·08 |
| | 49 752 | 2755·18 | +·01 | 4487·16 | −·01 | −·29 | −·32 | 154 | 4645·39 | ·00 | 3904·70 | ·00 | −·04 | −·06 |
| | 49 753 | 2780·28 | +·02 | 5252·15 | −·01 | +·11 | +·04 | 163 | 5528·28 | +·02 | 2701·79 | −·02 | −·12 | +·13 |
| | 50 617 | 3145·38 | +·04 | 7508·33 | −·05 | +·09* | (+·76*) | 168 | 5851·38 | +·02 | 3669·67 | −·01 | −·02 | −·13 |
| | 50 620 | 3522·87 | +·01 | 5721·74 | −·01 | ·00 | −·07 | 176 | 6652·27 | +·05 | 2201·29 | −·04 | −·10 | +·01 |
| | 50 627 | 4333·19 | ·00 | 5331·55 | ·00 | +·09 | −·36 | | | | | | | |
| | 48 752 | 4394·22 | +·03 | 806·91 | −·03 | −·26 | +·02 | | | | | Mean | −·08 | −·03 |
| | 49 773 | 5262·80 | +·01 | 3402·79 | −·01 | −·08 | +·30 | | | | | | | |
| | 50 636 | 5539·74 | +·01 | 6355·78 | −·01 | +·25 | −·08 | | | | | | | |
| | 49 782 | 6370·53 | +·03 | 3192·72 | −·02 | +·23 | +·18 | | | | | | | |
| | 48 770 | 7195·18 | +·10 | 818·61 | −·09 | −·15* | −·29* | | | | | | | |
| | Eros | 4292·74 | ·00 | 3934·76 | ·00 | ... | ... | | | | | | | |
| October 20<br>5169 | 50 587 | 981·87 | ·00 | 2040·83 | ·00 | +·47* | +·15* | 137 | 2422·12 | ·00 | 5310·90 | ·00 | +·15† | −·09† |
| | 51 598 | 1558·63 | ·00 | 6710·78 | ·00 | −·62* | +·35* | 138 | 2770·17 | ·00 | 6618·52 | ·00 | +·11† | −·02† |
| | 51 599 | 1899·65 | ·00 | 4813·13 | ·00 | −·41 | −·18 | 139 | 3156·49 | ·00 | 3790·30 | ·00 | +·18 | +·02 |
| | 50 589 | 2672·79 | ·00 | 872·14 | ·00 | −·31* | −·40* | 140 | 3159·93 | ·00 | 4209·37 | ·00 | +·16 | ·00 |
| | 51 604 | 2852·38 | ·00 | 5230·17 | ·00 | +·43 | −·25 | 141 | 3347·99 | ·00 | 5127·32 | ·00 | +·10 | −·04 |
| | 50 601 | 4014·75 | ·00 | 3597·51 | ·00 | −·22 | +·46 | 144 | 4404·85 | ·00 | 3340·60 | ·00 | ·00 | −·13 |
| | 51 616 | 4937·84 | ·00 | 6526·93 | ·00 | −·14 | +·04 | 145 | 4990·11 | ·00 | 5334·58 | ·00 | +·07 | −·16 |
| | 51 618 | 5103·53 | ·00 | 4616·24 | ·00 | +·19 | +·07 | 146 | 5107·50 | ·00 | 4138·70 | ·00 | +·03 | −·01 |
| | 51 620 | 5644·55 | ·00 | 6466·47 | ·00 | +·43 | +·01 | | | | | | | |
| | 50 613 | 5686·77 | ·00 | 3296·52 | ·00 | +·15 | +·05 | | | | | Mean | +·09 | −·05 |
| | 50 617 | 6112·33 | ·00 | 2187·86 | ·00 | +·31 | −·22 | | | | | | | |
| | 50 623 | 6746·69 | ·00 | 3504·10 | ·00 | −·29 | −·04 | | | | | | | |
| | Eros | 4285·63 | ·00 | 4207·28 | ·00 | ... | ... | | | | | | | |

* Not used in forming the finally adopted values of *c.* and *f.* (Table IV.), the star being more than 55′ from the centre of the plate.
† Not used in forming the Mean Correction for Comparison Stars (Table X.), the star being more than 25′ from the centre of the plate.
The number given in column 9 is the reference number assigned to the comparison stars in Tables VIII. and IX.

TABLE II.—Measured Co-ordinates and Residuals, Astrographic 13-inch Refractor.

| Date and Plate No. | Reference Stars. | | | | | | | Comparison Stars. | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | No. in B.D. | *x.* | Refraction Correction applied. | *y.* | Refraction Correction applied. | Residuals C—O. | | No. | *x.* | Refraction Correction applied. | *y.* | Refraction Correction applied. | Residuals. | |
| | | | | | | *x.* | *y.* | | | | | | *x.* | *y.* |
| 1900. | ° | " | " | " | " | " | " | | " | " | " | " | " | " |
| October 20 | 50 587 | 970·82 | ·00 | 2035·61 | ·00 | −·01* | +·10* | 138 | 2758·12 | ·00 | 6613·42 | ·00 | −·07† | +·12† |
| 5170 | 51 598 | 1546·54 | ·00 | 6705·39 | ·00 | −·71* | +·62* | 139 | 3144·87 | ·00 | 3785·27 | ·00 | −·02 | +·12 |
| | 51 599 | 1887·78 | ·00 | 4807·98 | ·00 | −·45 | −·12 | 140 | 3148·21 | ·00 | 4204·44 | ·00 | −·01 | +·01 |
| | 50 589 | 2661·49 | ·00 | 867·35 | ·00 | −·36* | −·64* | 141 | 3336·06 | ·00 | 5122·36 | ·00 | +·02 | +·04 |
| | 51 604 | 2840·62 | ·00 | 5225·12 | ·00 | +·23 | −·16 | 144 | 4393·00 | ·00 | 3335·71 | ·00 | +·10 | +·02 |
| | 50 601 | 4002·87 | ·00 | 3592·89 | ·00 | −·06 | +·28 | 145 | 4978·27 | ·00 | 5329·80 | ·00 | −·10 | −·01 |
| | 51 616 | 4925·69 | ·00 | 6522·19 | ·00 | −·11 | +·14 | 146 | 5095·74 | ·00 | 4134·15 | ·00 | −·05 | −·09 |
| | 51 618 | 5091·53 | ·00 | 4611·48 | ·00 | +·34 | +·20 | | | | | | | |
| | 51 620 | 5632·24 | ·00 | 6461·83 | ·00 | +·64 | +·13 | | | | | Mean | −·01 | +·02 |
| | 50 613 | 5674·96 | ·00 | 3292·20 | ·00 | +·29 | −·19 | | | | | | | |
| | 50 617 | 6100·80 | ·00 | 2183·30 | ·00 | +·33 | −·17 | | | | | | | |
| | 50 623 | 6734·86 | ·00 | 3499·89 | ·00 | −·15 | −·21 | | | | | | | |
| | Eros | 4257·84 | ·00 | 4224·00 | ·00 | ... | ... | | | | | | | |
| October 20 | 50 587 | 881·59 | −·05 | 2051·84 | −·02 | +·30* | −·03* | 137 | 2323·88 | −·01 | 5320·42 | ·00 | −·43† | −·06† |
| 5172 | 51 598 | 1460·78 | −·02 | 6720·77 | ·00 | −·63* | +·51* | 138 | 2672·50 | −·01 | 6627·67 | ·00 | −·35† | +·05† |
| | 51 599 | 1800·57 | −·01 | 4823·12 | ·00 | −·34 | −·18 | 139 | 3056·84 | ·00 | 3799·49 | ·00 | +·01 | −·10 |
| | 50 589 | 2571·19 | −·03 | 881·73 | −·02 | −·15* | −·41* | 140 | 3060·61 | ·00 | 4218·30 | ·00 | −·11 | +·12 |
| | 51 604 | 2753·74 | ·00 | 5239·25 | ·00 | +·12 | −·10 | 141 | 3249·13 | ·00 | 5136·33 | ·00 | −·13 | −·20 |
| | 50 601 | 3914·59 | ·00 | 3605·73 | ·00 | −·17 | +·66 | 142 | 4096·17 | −·01 | 6321·37 | −·01 | −·20† | +·01† |
| | 51 616 | 4839·30 | −·01 | 6534·44 | −·01 | −·17 | +·07 | 144 | 4304·61 | ·00 | 3348·50 | ·00 | −·08 | +·11 |
| | 51 618 | 5003·72 | ·00 | 4623·91 | ·00 | +·29 | ·08 | 145 | 4890·99 | ·00 | 5342·00 | ·00 | −·08 | ·00 |
| | 51 620 | 5545·95 | −·02 | 6473·51 | −·01 | +·30 | −·01 | 146 | 5007·58 | ·00 | 4146·29 | ·00 | −·02 | −·05 |
| | 50 613 | 5586·09 | ·00 | 3303·71 | ·00 | +·24 | ·00 | | | | | | | |
| | 50 617 | 6011·10 | −·01 | 2194·86 | ·00 | +·24 | −·36 | | | | | Mean | −·07 | −·02 |
| | 50 623 | 6645·82 | −·01 | 3510·42 | ·00 | −·08 | −·05 | | | | | | | |
| | Eros | 4018·85 | ·00 | 4434·36 | ·00 | ... | ... | | | | | | | |
| October 21 | 50 587 | 1584·65 | +·03 | 1004·50 | −·02 | −·31* | −·35* | 138 | 3351·66 | +·01 | 5589·61 | −·01 | +·04 | −·23 |
| 5173 | 51 598 | 2140·23 | +·04 | 5675·57 | −·03 | −·65* | +·41* | 139 | 3750·28 | ·00 | 2763·81 | ·00 | +·02 | +·02 |
| | 51 599 | 2489·22 | +·01 | 3780·24 | −·01 | −·30 | −·18 | 140 | 3751·68 | ·00 | 3183·00 | ·00 | +·20 | −·19 |
| | 52 602 | 3043·07 | +·04 | 6847·50 | −·04 | −·09 | +·06 | 141 | 3935·74 | ·00 | 4101·71 | ·00 | +·08† | −·26† |
| | 51 604 | 3440·14 | ·00 | 4201·75 | ·00 | +·17 | −·14 | 142 | 4776·72 | ·00 | 5291·41 | ·00 | +·04 | −·14 |
| | 50 601 | 4608·60 | +·01 | 2575·28 | −·01 | −·10 | +·42 | 143 | 4923·62 | +·02 | 2184·49 | −·02 | +·05† | +·06† |
| | 51 616 | 5518·79 | +·01 | 5508·53 | ·00 | +·01 | +·04 | 145 | 5576·53 | +·01 | 4316·67 | −·01 | −·04 | −·05 |
| | 51 618 | 5693·13 | +·02 | 3599·28 | −·01 | +·06 | −·07 | 146 | 5699·15 | +·02 | 3121·72 | −·02 | −·10 | +·02 |
| | 52 617 | 6042·58 | +·01 | 6680·78 | −·01 | +·09 | +·02 | | | | | | | |
| | 51 620 | 6225·62 | +·01 | 5451·62 | −·01 | +·52 | −·03 | | | | | Mean | +·03 | −·10 |
| | 50 613 | 6281·63 | +·04 | 2282·60 | −·03 | +·44 | −·07 | | | | | | | |
| | 50 617 | 6712·40 | +·08 | 1175·92 | −·07 | +·21* | −·12* | | | | | | | |
| | Eros | 4354·49 | ·00 | 3932·17 | ·00 | ... | ... | | | | | | | |
| October 21 | 50 587 | 1588·03 | +·02 | 1000·34 | −·02 | −·14* | −·21* | 138 | 3355·74 | +·01 | 5585·33 | −·01 | +·24 | −·11 |
| 5174 | 51 598 | 2144·49 | +·03 | 5671·70 | −·02 | −·68* | +·45* | 139 | 3754·09 | ·00 | 2759·26 | ·00 | +·13 | +·11 |
| | 51 599 | 2493·28 | +·01 | 3776·29 | −·01 | −·39 | −·30 | 140 | 3755·66 | ·00 | 3178·53 | ·00 | +·18 | −·14 |
| | 52 602 | 3047·27 | +·03 | 6843·58 | −·03 | +·13 | −·03 | 141 | 3939·77 | ·00 | 4096·96 | ·00 | +·15† | +·07† |
| | 51 604 | 3444·25 | ·00 | 4197·66 | ·00 | +·12 | −·33 | 142 | 4780·98 | ·00 | 5286·88 | ·00 | +·09 | −·17 |
| | 50 601 | 4612·56 | +·01 | 2570·57 | −·01 | −·17 | +·41 | 143 | 4927·49 | +·01 | 2179·62 | −·02 | +·06† | +·11† |

* Not used in forming the finally adopted values of *c.* and *f.* (Table IV.), the star being more than 55′ from the centre of the plate.
† Not used in forming the Mean Correction for Comparison Stars (Table X.), the star being more than 25′ from the centre of the plate.
The number given in columu 9 is the reference number assigned to the comparison stars in Tables VIII. and IX.

TABLE II.—Measured Co-ordinates and Residuals, Astrographic 13-inch Refractor.

| Date and Plate No. | Reference Stars. | | | | | | | Comparison Stars. | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | No. in B.D. | *x*. | Refraction Correction applied. | *y*. | Refraction Correction applied. | Residuals C—O. *x*. | Residuals C—O. *y*. | No. | *x*. | Refraction Correction applied. | *y*. | Refraction Correction applied. | Residuals. *x*. | Residuals. *y*. |
| 1900. | ° | ″ | ″ | ″ | ″ | ″ | ″ | | ″ | ″ | ″ | ″ | ″ | ″ |
| October 21<br>5174—*contd.* | 51 616 | 5523·08 | ·00 | 5503·65 | ·00 | +·05 | +·16 | 145 | 5580·53 | +·01 | 4311·90 | ·00 | +·16 | −·13 |
| | 51 618 | 5697·10 | +·01 | 3594·16 | −·01 | +·16 | +·10 | 146 | 5703·05 | +·01 | 3116·74 | −·01 | +·03 | +·04 |
| | 52 617 | 6047·14 | +·01 | 6676·06 | −·01 | +·06 | −·08 | | | | | | | |
| | 51 620 | 6230·18 | +·01 | 5446·48 | −·01 | +·31 | +·17 | | | | | Mean | +·14 | −·07 |
| | 50 613 | 6285·70 | +·03 | 2277·47 | −·03 | +·28 | −·14 | | | | | | | |
| | 50 617 | 6716·15 | +·06 | 1170·59 | −·06 | +·23* | −·18* | | | | | | | |
| | Eros | 4344·89 | ·00 | 3947·18 | ·00 | ... | ... | | | | | | | |
| October 21<br>5177 | 50 587 | 1655·27 | ·00 | 1056·70 | ·00 | +·38* | +·19* | 137 | 3081·42 | ·00 | 4332·75 | ·00 | +·28† | +·14† |
| | 51 598 | 2211·96 | ·00 | 5729·04 | ·00 | −·48* | +·31* | 138 | 3424·13 | ·00 | 5641·99 | ·00 | −·03 | −·02 |
| | 51 599 | 2561·21 | ·00 | 3832·97 | ·00 | −·45 | −·16 | 139 | 3822·63 | 00 | 2815·57 | ·00 | −·06 | +·02 |
| | 52 602 | 3115·36 | ·00 | 6900·70 | ·00 | −·10 | −·09 | 140 | 3824·23 | ·00 | 3234·52 | ·00 | −·05 | −·13 |
| | 51 604 | 3512·32 | ·00 | 4254·00 | ·00 | +·16 | −·13 | 141 | 4008·21 | ·00 | 4153·41 | ·00 | +·06† | −·05† |
| | 50 601 | 4681·35 | ·00 | 2626·53 | ·00 | −·46 | +·36 | 142 | 4849·47 | ·00 | 5342·89 | ·00 | +·11 | +·02 |
| | 51 616 | 5592·09 | ·00 | 5559·64 | ·00 | −·36 | +·17 | 143 | 4996·30 | ·00 | 2235·58 | ·00 | −·04† | −·12† |
| | 51 618 | 5765·87 | ·00 | 3649·91 | ·00 | +·14 | +·02 | 145 | 5649·50 | ·00 | 4367·46 | ·00 | −·03 | +·11 |
| | 52 617 | 6115·87 | ·00 | 6732·03 | ·00 | +·01 | −·08 | 146 | 5771·86 | ·00 | 3172·41 | ·00 | +·09 | −·06 |
| | 51 620 | 6298·93 | ·00 | 5502·24 | ·00 | +·36 | +·14 | | | | | | | |
| | 50 613 | 6354·64 | ·00 | 2332·70 | ·00 | +·30 | −·09 | | | | | Mean | +·01 | −·01 |
| | 50 617 | 6784·96 | ·00 | 1225·98 | ·00 | +·56* | −·59* | | | | | | | |
| | Eros | 4244·56 | ·00 | 4227·62 | ·00 | ... | ... | | | | | | | |
| October 21<br>5178 | 50 587 | 1577·51 | −·03 | 1062·53 | −·02 | −·03* | +·21* | 138 | 3347·05 | ·00 | 5646·97 | ·00 | −·19 | +·05 |
| | 51 598 | 2135·22 | −·01 | 5734·38 | ·00 | −·77* | +·45* | 139 | 3744·85 | ·00 | 2820·69 | ·00 | −·32 | −·14 |
| | 52 602 | 3038·96 | −·01 | 6905·61 | ·00 | −·56 | +·09 | 140 | 3746·38 | ·00 | 3239·61 | ·00 | −·12 | ·00 |
| | 51 604 | 3434·86 | ·00 | 4259·08 | ·00 | ·00 | −·21 | 141 | 3930·79 | ·00 | 4158·03 | ·00 | −·24† | +·18† |
| | 50 601 | 4603·27 | ·00 | 2631·35 | ·00 | −·60 | +·12 | 142 | 4772·09 | ·00 | 5347·24 | ·00 | −·04 | +·15 |
| | 51 616 | 5514·34 | −·01 | 5563·82 | −·01 | −·19 | +·12 | 143 | 4918·12 | ·00 | 2240·10 | ·00 | −·23† | −·13† |
| | 51 618 | 5687·50 | ·00 | 3654·09 | ·00 | +·39 | −·04 | 146 | 5693·73 | −·01 | 3176·22 | ·00 | −·02 | +·31 |
| | 52 617 | 6038·35 | −·02 | 6735·68 | −·01 | +·16 | +·17 | | | | | | | |
| | 51 620 | 6221·03 | −·02 | 5506·09 | −·01 | +·54 | +·15 | | | | | Mean | −·12 | +·06 |
| | 50 613 | 6276·07 | −·01 | 2336·93 | ·00 | +·33 | −·38 | | | | | | | |
| | 50 617 | 6705·92 | −·02 | 1229·90 | ·00 | +·70* | −·71* | | | | | | | |
| | Eros | 4016·79 | ·00 | 4412·24 | ·00 | ... | ... | | | | | | | |
| October 21<br>5179 | 50 587 | 1590·74 | −·04 | 1063·06 | −·03 | +·36* | +·20* | 137 | 3018·24 | ·00 | 4338·28 | ·00 | −·04† | +·10† |
| | 51 598 | 2149·20 | −·01 | 5734·72 | ·00 | −·54* | +·46* | 138 | 3360·85 | ·00 | 5646·95 | ·00 | +·20 | +·15 |
| | 51 599 | 2497·63 | −·01 | 3838·79 | ·00 | −·49 | −·26 | 139 | 3758·32 | ·00 | 2820·64 | ·00 | +·03 | −·01 |
| | 52 602 | 3053·03 | −·01 | 6905·79 | −·01 | −·30 | +·06 | 140 | 3760·39 | ·00 | 3239·62 | ·00 | −·27 | +·06 |
| | 51 604 | 3448·80 | ·00 | 4259·42 | ·00 | +·04 | −·41 | 141 | 3944·53 | ·00 | 4157·97 | ·00 | ·00† | +·26† |
| | 50 601 | 4616·97 | ·00 | 2630·97 | ·00 | −·56 | +·47 | 142 | 4786·20 | ·00 | 5347·08 | ·00 | −·05 | +·15 |
| | 51 616 | 5528·56 | −·01 | 5563·42 | −·01 | −·33 | +·26 | 143 | 4931·42 | ·00 | 2239·78 | ·00 | +·16† | +·09† |
| | 52 617 | 6052·61 | −·03 | 6735·45 | −·02 | +·12 | +·01 | 145 | 5585·44 | −·01 | 4371·25 | ·00 | +·08 | +·22 |
| | 51 620 | 6235·12 | −·02 | 5505·56 | −·01 | +·51 | +·29 | 146 | 5707·47 | −·01 | 3176·41 | ·00 | +·05 | −·16 |
| | 50 613 | 6289·82 | −·01 | 2336·50 | ·00 | +·22 | −·29 | | | | | | | |
| | 50 617 | 6719·12 | −·02 | 1229·63 | −·01 | +1·00* | −·84* | | | | | Mean | +·01 | +·07 |
| | Eros | 4018·02 | ·00 | 4427·77 | ·00 | ... | ... | | | | | | | |

* Not used in forming the finally adopted values of *c.* and *f.* (Table IV.), the star being more than 55′ from the centre of the plate.

† Not used in forming the Mean Correction for Comparison Stars (Table X.), the star being more than 25′ from the centre of the plate.

The number given in column 9 is the reference number assigned to the comparison stars in Tables VIII. and IX.

TABLE II.—Measured Co-ordinates and Residuals, Astrographic 13-inch Refractor.

| Date and Plate No. | Reference Stars. | | | | | | | Comparison Stars. | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | No. in B.D. | x. | Refraction Correction applied. | y. | Refraction Correction applied. | Residuals C—O. | | No. | x. | Refraction Correction applied. | y. | Refraction Correction applied. | Residuals. | |
| | | | | | | x. | y. | | | | | | x. | y. |
| 1900. | ° | ″ | ″ | ″ | ″ | ″ | ″ | | ″ | ″ | ″ | ″ | ″ | ″ |
| October 26 | 52 580 | 579·33 | +·05 | 4520·35 | −·03 | −·24 | −·20 | 120 | 2632·20 | +·02 | 4890·39 | −·01 | +·01 | −·14 |
| 5183 | 53 525 | 886·84 | +·09 | 7240·33 | −·07 | −1·34* | +·88* | 123 | 2852·52 | ·00 | 3897·52 | ·00 | +·17 | −·20 |
| | 52 581 | 1378·88 | +·04 | 4981·22 | −·02 | −·09 | −·16 | 130 | 3797·55 | ·00 | 4043·70 | ·00 | +·24 | −·23 |
| | 52 585 | 2141·10 | +·03 | 5127·11 | −·02 | +·18 | −·26 | 131 | 3855·91 | ·00 | 5539·35 | −·01 | +·17 | −·01 |
| | 52 587 | 2643·24 | +·01 | 3395·74 | ·00 | +·02 | −·17 | 132 | 4363·35 | ·00 | 5644·15 | ·00 | +·16 | −·35 |
| | 53 532 | 2787·33 | +·02 | 6243·13 | −·02 | +·12 | +·43 | 134 | 5270·43 | +·01 | 3509·58 | −·01 | +·08 | −·13 |
| | 52 592 | 3830·58 | ·00 | 2582·43 | −·01 | +·37 | −·15 | 136 | 5626·99 | +·01 | 3517·92 | −·01 | −·19 | −·10 |
| | 53 539 | 4084·27 | +·03 | 7897·33 | −·03 | +·36 | −·36 | | | | | | | |
| | 53 540 | 4254·51 | +·01 | 6701·60 | −·01 | +·09 | +·20 | | | | | Mean | +·09 | −·17 |
| | 52 595 | 5055·39 | +·01 | 2581·80 | −·01 | +·04 | +·14 | | | | | | | |
| | 52 597 | 5100·86 | ·00 | 4651·51 | ·00 | +·37 | −·11 | | | | | | | |
| | 53 546 | 5714·29 | +·01 | 5680·23 | ·00 | +·02 | −·23 | | | | | | | |
| | 53 547 | 5718·37 | +·02 | 7946·86 | −·02 | +·31* | −·15* | | | | | | | |
| | 51 598 | 6157·52 | +·05 | 1363·47 | −·03 | −·28* | +·17* | | | | | | | |
| | 52 602 | 7030·96 | +·05 | 2557·55 | −·03 | +·05 | +·05 | | | | | | | |
| | Eros | 4393·53 | ·00 | 3984·90 | ·00 | ... | ... | | | | | | | |
| October 26 | 52 580 | 586·06 | +·04 | 4504·32 | −·02 | −·02 | −·33 | 120 | 2638·62 | +·01 | 4878·48 | −·01 | −·11 | −·18 |
| 5184 | 53 525 | 887·17 | +·06 | 7225·26 | −·04 | −·71* | +·60* | 123 | 2861·36 | +·01 | 3886·06 | ·00 | −·13 | −·28 |
| | 52 581 | 1384·84 | +·03 | 4966·59 | −·01 | −·06 | −·01 | 130 | 3806·05 | ·00 | 4034·18 | ·00 | −·01 | −·30 |
| | 52 585 | 2146·56 | +·02 | 5114·13 | −·01 | +·46 | −·19 | 131 | 3861·09 | ·00 | 5530·12 | ·00 | −·06 | −·14 |
| | 52 587 | 2652·85 | ·00 | 3383·58 | ·00 | −·01 | +·01 | 132 | 4368·24 | ·00 | 5635·70 | ·00 | +·01 | −·21 |
| | 53 532 | 2790·78 | +·02 | 6231·71 | −·01 | −·03 | +·36 | 134 | 5280·24 | +·01 | 3503·16 | ·00 | −·21 | −·29 |
| | 52 592 | 3842·23 | ·00 | 2572·92 | ·00 | +·19 | −·21 | 136 | 5636·61 | +·01 | 3512·34 | ·00 | −·28 | −·36 |
| | 53 539 | 4083·90 | +·02 | 7888·48 | −·02 | +·44 | −·18 | | | | | | | |
| | 53 540 | 4256·99 | +·01 | 6693·15 | −·01 | −·01 | +·22 | | | | | Mean | −·11 | −·25 |
| | 52 595 | 5066·90 | +·01 | 2574·80 | −·01 | +·09 | +·10 | | | | | | | |
| | 52 597 | 5107·93 | ·00 | 4644·59 | ·00 | +·29 | ·00 | | | | | | | |
| | 53 547 | 5718·36 | +·02 | 7941·84 | −·02 | +·08* | −·42* | | | | | | | |
| | 53 546 | 5719·19 | +·01 | 5674·58 | ·00 | −·15 | −·05 | | | | | | | |
| | 51 598 | 6171·93 | +·03 | 1358·72 | −·03 | −·33* | +·10* | | | | | | | |
| | 52 602 | 7042·97 | +·04 | 2554·63 | −·02 | −·23 | +·02 | | | | | | | |
| | Eros | 4375·79 | ·00 | 4001·20 | ·00 | ... | ... | | | | | | | |
| October 26 | 52 580 | 582·30 | +·03 | 4521·01 | −·01 | −·13 | −·11 | 120 | 2635·47 | +·01 | 4890·68 | ·00 | +·10 | −·24 |
| 5185 | 53 525 | 889·69 | +·05 | 7241·64 | −·03 | −·93* | +·50* | 123 | 2855·90 | ·00 | 3897·63 | ·00 | +·15 | −·27 |
| | 52 581 | 1381·89 | +·02 | 4981·82 | −·01 | +·10 | −·18 | 130 | 3801·03 | ·00 | 4043·58 | ·00 | +·20 | −·32 |
| | 52 585 | 2144·10 | +·02 | 5127·53 | −·01 | +·49 | −·29 | 131 | 3859·54 | ·00 | 5539·54 | ·00 | +·06 | −·27 |
| | 52 587 | 2646·50 | +·01 | 3395·68 | ·00 | +·02 | −·04 | 132 | 4366·94 | ·00 | 5643·70 | ·00 | +·15 | −·10 |
| | 53 532 | 2790·90 | +·01 | 6243·63 | −·01 | −·03 | +·24 | 134 | 5274·01 | ·00 | 3508·94 | ·00 | +·07 | −·15 |
| | 52 592 | 3834·10 | ·00 | 2582·10 | ·00 | +·20 | −·16 | 136 | 5630·34 | +·01 | 3517·15 | ·00 | +·07 | −·08 |
| | 53 539 | 4088·08 | +·02 | 7897·54 | −·02 | +·19 | −·42 | | | | | | | |
| | 53 540 | 4258·23 | +·01 | 6701·62 | −·01 | −·01 | +·15 | | | | | Mean | +·11 | −·20 |
| | 52 595 | 5058·77 | +·01 | 2581·21 | −·01 | +·15 | +·07 | | | | | | | |
| | 52 597 | 5104·56 | ·00 | 4650·95 | ·00 | +·28 | −·02 | | | | | | | |
| | 53 546 | 5718·16 | +·01 | 5679·54 | ·00 | −·13 | −·07 | | | | | | | |
| | 53 547 | 5722·45 | +·02 | 7946·36 | −·01 | +·10* | +·06* | | | | | | | |
| | 51 598 | 6160·98 | +·03 | 1362·60 | −·02 | −·15* | −·03* | | | | | | | |
| | 52 602 | 7034·88 | +·03 | 2556·11 | −·02 | −·17 | +·29 | | | | | | | |
| | Eros | 4348·53 | ·00 | 4029·58 | ·00 | ... | ... | | | | | | | |

* Not used in forming the finally adopted values of *c.* and *f.* (Table IV.), the star being more than 55′ from the centre of the plate.
† Not used in forming the Mean Correction for Comparison Stars (Table X.), the star being more than 25′ from the centre of the plate.
The number given in column 9 is the reference number assigned to the comparison stars in Tables VIII. and IX.

TABLE II.—Measured Co-ordinates and Residuals, Astrographic 13-inch Refractor.

| Date and Plate No. | Reference Stars. | | | | | | | Comparison Stars. | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | No. in B.D. | x. | Refraction Correction applied. | y. | Refraction Correction applied. | Residuals. C—O. | | No. | x. | Refraction Correction applied. | y. | Refraction Correction. applied. | Residuals. | |
| | | | | | | x. | y. | | | | | | x. | y. |
| | ° | ″ | ″ | ″ | ″ | ″ | ″ | | ″ | ″ | ″ | ″ | ″ | ″ |
| 1900.<br>October 26<br>5186 | 53 525 | 888·32 | ·00 | 7296·68 | ·00 | −·76 | +·32* | 120 | 2633·31 | ·00 | 4944·00 | ·00 | +·21 | +·05 |
| | 52 581 | 1379·70 | ·00 | 5036·26 | ·00 | +·05 | −·17 | 123 | 2853·48 | ·00 | 3950·64 | ·00 | +·08 | +·15 |
| | 52 585 | 2142·13 | ·00 | 5181·31 | ·00 | +·41 | −·12 | 130 | 3799·03 | ·00 | 4096·02 | ·00 | −·06 | +·06 |
| | 52 587 | 2643·72 | ·00 | 3449·25 | ·00 | ·00 | −·05 | 131 | 3853·13 | ·00 | 5592·00 | ·00 | −·06 | +·12 |
| | 53 532 | 2789·58 | ·00 | 6297·04 | ·00 | −·09 | +·41 | 132 | 4365·64 | ·00 | 5695·96 | ·00 | +·06 | +·16 |
| | 52 592 | 3831·14 | ·00 | 2634·72 | ·00 | +·14 | −·01 | 134 | 5271·74 | ·00 | 3560·31 | ·00 | +·05 | +·31 |
| | 53 539 | 4087·79 | ·00 | 7950·18 | ·00 | +·11 | −·26 | 136 | 5628·15 | ·00 | 3568·57 | ·00 | +·03 | +·10 |
| | 53 540 | 4257·29 | ·00 | 6754·41 | ·00 | −·02 | ·00 | | | | | | | |
| | 52 595 | 5056·13 | ·00 | 2633·25 | ·00 | −·04 | −·01 | | | | | Mean | +·04 | +·14 |
| | 52 597 | 5102·76 | ·00 | 4702·86 | ·00 | +·27 | +·08 | | | | | | | |
| | 53 546 | 5717·01 | ·00 | 5731·19 | ·00 | −·19 | −·06 | | | | | | | |
| | 53 547 | 5722·22 | ·00 | 7998·04 | ·00 | +·23* | +·12* | | | | | | | |
| | 51 598 | 6157·56 | ·00 | 1413·93 | ·00 | +·02* | −·18* | | | | | | | |
| | 52 602 | 7032·35 | ·00 | 2607·13 | ·00 | −·17 | −·06 | | | | | | | |
| | Eros | 4196·73 | ·00 | 4209·48 | ·00 | ... | ... | | | | | | | |
| October 26<br>5187 | 52 580 | 574·66 | ·00 | 4576·54 | ·00 | −·16 | +·08 | 120 | 2628·35 | ·00 | 4944·87 | ·00 | +·10 | −·05 |
| | 53 525 | 883·26 | ·00 | 7297·20 | ·00 | −·78* | +·57* | 123 | 2848·48 | ·00 | 3951·38 | ·00 | +·01 | +·19 |
| | 52 581 | 1374·68 | ·00 | 5036·90 | ·00 | −·01 | −·04 | 130 | 3793·83 | ·00 | 4096·67 | ·00 | +·06 | +·19 |
| | 52 585 | 2137·12 | ·00 | 5182·23 | ·00 | +·35 | −·27 | 131 | 3852·99 | ·00 | 5592·95 | ·00 | +·01 | −·06 |
| | 52 587 | 2638·66 | ·00 | 3450·00 | ·00 | −·02 | −·03 | 132 | 4360·58 | ·00 | 5696·83 | ·00 | +·06 | +·07 |
| | 53 532 | 2784·46 | ·00 | 6297·96 | ·00 | −·05 | +·26 | 134 | 5266·68 | ·00 | 3561·38 | ·00 | +·04 | +·01 |
| | 52 592 | 3826·09 | ·00 | 2635·67 | ·00 | +·12 | −·18 | 136 | 5623·05 | ·00 | 3569·44 | ·00 | +·05 | +·01 |
| | 53 539 | 4082·65 | ·00 | 7950·84 | ·00 | +·18 | −·15 | | | | | | | |
| | 53 540 | 4252·24 | ·00 | 6755·04 | ·00 | −·04 | +·14 | | | | | Mean | +·05 | +·05 |
| | 52 595 | 5050·96 | ·00 | 2634·07 | ·00 | +·06 | −·07 | | | | | | | |
| | 52 597 | 5097·75 | ·00 | 4703·68 | ·00 | +·21 | +·03 | | | | | | | |
| | 53 546 | 5711·92 | ·00 | 5732·10 | ·00 | −·17 | −·21 | | | | | | | |
| | 53 547 | 5716·86 | ·00 | 7998·68 | ·00 | +·52* | +·24* | | | | | | | |
| | 51 598 | 6152·64 | ·00 | 1414·84 | ·00 | −·13* | −·32* | | | | | | | |
| | 52 602 | 7027·18 | ·00 | 2607·79 | ·00 | −·07 | +·05 | | | | | | | |
| | Eros | 4154·76 | ·00 | 4239·66 | ·00 | ... | ... | | | | | | | |
| October 26<br>5189 | 53 525 | 893·38 | −·03 | 7301·29 | −·01 | −·32* | +·14* | 120 | 2638·17 | −·01 | 4948·09 | ·00 | +·16 | −·18 |
| | 52 581 | 1384·87 | −·02 | 5040·60 | −·01 | −·05 | −·14 | 123 | 2858·30 | −·01 | 3954·50 | ·00 | −·12 | +·12 |
| | 52 585 | 2147·14 | −·01 | 5185·37 | ·00 | +·34 | −·11 | 130 | 3803·47 | ·00 | 4099·33 | ·00 | −·05 | +·21 |
| | 52 587 | 2648·43 | −·01 | 3453·11 | −·01 | −·14 | +·06 | 131 | 3862·77 | ·00 | 5595·51 | ·00 | −·02 | −·05 |
| | 53 532 | 2794·23 | −·01 | 6301·05 | ·00 | +·23 | +·25 | 132 | 4370·37 | ·00 | 5699·36 | ·00 | −·08 | −·10 |
| | 52 592 | 3835·53 | −·01 | 2638·32 | −·01 | −·04 | −·05 | 134 | 5275·95 | ·00 | 3563·51 | ·00 | −·07 | +·02 |
| | 53 539 | 4092·73 | −·02 | 7953·46 | −·02 | +·13 | −·40 | 136 | 5632·24 | −·01 | 3571·40 | ·00 | −·06 | +·05 |
| | 53 540 | 4262·03 | −·01 | 6757·36 | −·01 | −·01 | +·20 | | | | | | | |
| | 52 595 | 5060·24 | ·00 | 2636·21 | ·00 | −·18 | +·11 | | | | | Mean | −·03 | +·01 |
| | 52 597 | 5107·04 | ·00 | 4705·58 | ·00 | +·26 | +·31 | | | | | | | |
| | 53 546 | 5721·31 | −·02 | 5733·71 | −·01 | −·18 | +·05 | | | | | | | |
| | 53 547 | 5727·02 | −·03 | 8000·85 | −·03 | +· 6* | −·19* | | | | | | | |
| | 51 598 | 6161·15 | −·01 | 1416·45 | −·01 | −·01* | +·04* | | | | | | | |
| | 52 602 | 7035·81 | −·02 | 2609·55 | −·01 | −·06 | −·16 | | | | | | | |
| | Eros | 3976·09 | ·00 | 4385·18 | ·00 | ... | ... | | | | | | | |

* Not used in forming the finally adopted values of *c.* and *f.* (Table IV.), the star being more than 55′ from the centre of the plate.
† Not used in forming the Mean Correction for Comparison Stars (Table X.), the star being more than 25′ from the centre of the plate.
The number given in column 9 is the reference number assigned to the comparison stars in Tables VIII. and IX.

### TABLE II.—Measured Co-ordinates and Residuals, Astrographic 13-inch Refractor.

| Date and Plate No. | Reference Stars. | | | | | | | Comparison Stars. | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | No. in B.D. | x. | Refraction Correction applied. | y. | Refraction Correction applied. | Residuals C—O. x. | Residuals C—O. y. | No. | x. | Refraction Correction applied. | y. | Refraction Correction applied. | Residuals. x. | Residuals. y. |
| 1900. | ° | " | " | " | " | " | " | | " | " | " | " | " | " |
| October 26 | 52 580 | 598·72 | −·04 | 4581·64 | −·02 | −·34 | +·02 | 120 | 2651·99 | −·01 | 4948·82 | ·00 | −·07 | −·11 |
| 5190 | 53 525 | 907·61 | −·03 | 7301·87 | −·01 | −·78* | +·47* | 123 | 2871·77 | −·01 | 3955·27 | ·00 | −·08 | +·17 |
| | 52 581 | 1398·55 | −·03 | 5041·52 | −·01 | −·10 | −·11 | 130 | 3817·01 | ·00 | 4100·12 | ·00 | −·09 | +·09 |
| | 52 585 | 2160·85 | −·01 | 5186·21 | ·00 | +·33 | −·12 | 131 | 3876·48 | ·00 | 5595·71 | ·00 | −·19 | +·34 |
| | 52 587 | 2661·90 | −·01 | 3453·90 | −·01 | −·12 | +·12 | 132 | 4384·02 | ·00 | 5699·66 | ·00 | −·20 | +·10 |
| | 53 532 | 2807·83 | −·01 | 6301·69 | −·01 | +·26 | +·19 | 134 | 5289·28 | ·00 | 3563·83 | ·00 | −·01 | +·18 |
| | 52 592 | 3848·91 | −·01 | 2639·23 | −·01 | −·01 | −·24 | 136 | 5645·26 | −·01 | 3571·65 | ·00 | +·31 | +·27 |
| | 53 539 | 4106·46 | −·03 | 7953·71 | −·03 | +·06 | −·25 | | | | | | | |
| | 53 540 | 4275·90 | −·01 | 6757·81 | −·01 | −·28 | +·17 | | | | | Mean | −·05 | +·15 |
| | 52 595 | 5073·36 | ·00 | 2636·80 | ·00 | +·06 | +·05 | | | | | | | |
| | 52 597 | 5120·41 | ·00 | 4706·19 | ·00 | +·35 | +·11 | | | | | | | |
| | 53 546 | 5734·70 | −·02 | 5734·17 | −·01 | −·10 | −·13 | | | | | | | |
| | 53 547 | 5740·30 | −·05 | 8000·93 | −·05 | +·39* | −·13* | | | | | | | |
| | 51 598 | 6174·35 | −·02 | 1417·01 | −·01 | +·04* | −·10* | | | | | | | |
| | 52 602 | 7048·86 | −·03 | 2609·65 | −·01 | +·17 | −·03 | | | | | | | |
| | Eros | 3969·63 | ·00 | 4401·15 | ·00 | ... | ... | | | | | | | |
| October 27 | 52 580 | 1476·75 | +·02 | 3768·93 | −·01 | +·38 | −·24 | 116 | 3001·49 | +·01 | 4422·04 | ·00 | +·06 | −·06 |
| 5191 | 53 525 | 1769·24 | +·04 | 6490·79 | −·03 | −·75* | +·44* | 120 | 3528·07 | ·00 | 4149·89 | ·00 | +·05 | +·07 |
| | 52 581 | 2274·13 | +·01 | 4234·18 | ·00 | +·07 | −·22 | 127 | 4050·99 | ·00 | 2976·17 | ·00 | +·02 | +·09 |
| | 52 585 | 3035·44 | ·00 | 4384·17 | ·00 | +·40 | −·25 | 129 | 4267·23 | ·00 | 5256·69 | ·00 | +·11 | −·08 |
| | 52 587 | 3547·64 | ·00 | 2655·22 | ·00 | −·21 | +·14 | 130 | 4698·44 | ·00 | 3309·67 | ·00 | −·01 | −·13 |
| | 53 532 | 3675·69 | +·01 | 5503·77 | −·01 | +·12 | +·36 | 132 | 5255·28 | ·00 | 4913·17 | ·00 | −·03 | −·15 |
| | 52 592 | 4739·67 | +·01 | 1848·27 | −·01 | +·01 | +·20 | | | | | | | |
| | 53 539 | 4963·43 | +·01 | 7164·96 | −·01 | +·32 | −·32 | | | | | Mean | +·03 | −·04 |
| | 53 540 | 5140·60 | +·01 | 5970·34 | ·00 | −·20 | +·11 | | | | | | | |
| | 52 595 | 5964·35 | +·02 | 1854·60 | −·02 | −·07 | +·18 | | | | | | | |
| | 52 597 | 5998·42 | +·01 | 3924·88 | −·01 | +·11 | −·22 | | | | | | | |
| | 53 546 | 6606·01 | +·02 | 4956·80 | −·01 | −·10 | −·13 | | | | | | | |
| | Eros | 4389·70 | ·00 | 4007·12 | ·00 | ... | ... | | | | | | | |
| October 27 | 52 580 | 1469·62 | +·02 | 3772·07 | −·01 | +·29 | −·19 | 116 | 2994·94 | ·00 | 4423·83 | ·00 | +·03 | +·08 |
| 5192 | 53 525 | 1764·28 | +·03 | 6493·78 | −·02 | −·57* | +·42* | 120 | 3521·33 | ·00 | 4151·30 | ·00 | −·01 | +·09 |
| | 52 581 | 2267·40 | +·01 | 4236·58 | ·00 | +·01 | −·19 | 127 | 4043·29 | ·00 | 2976·86 | ·00 | −·12 | +·23 |
| | 52 585 | 3028·77 | ·00 | 4385·86 | ·00 | +·46 | −·21 | 129 | 4261·34 | ·00 | 5257·35 | ·00 | +·10 | +·02 |
| | 52 587 | 3539·54 | ·00 | 2656·41 | ·00 | −·26 | +·12 | 130 | 4691·14 | ·00 | 3309·51 | ·00 | −·22 | +·31 |
| | 53 532 | 3670·03 | ·00 | 5504·97 | ·00 | +·18 | +·30 | 132 | 5249·12 | ·00 | 4912·85 | ·00 | +·06 | −·02 |
| | 52 592 | 4730·96 | +·01 | 1848·44 | −·01 | −·12 | +·04 | | | | | | | |
| | 53 539 | 4959·18 | +·01 | 7164·94 | −·01 | +·50 | −·36 | | | | | Mean | −·03 | +·12 |
| | 53 540 | 5135·31 | ·00 | 5970·13 | ·00 | −·05 | +·08 | | | | | | | |
| | 52 595 | 5955·71 | +·02 | 1853·42 | −·02 | −·21 | +·21 | | | | | | | |
| | 52 597 | 5991·40 | +·01 | 3923·61 | −·01 | +·18 | −·06 | | | | | | | |
| | 53 546 | 6600·18 | +·02 | 4955·20 | ·00 | −·28 | −·20 | | | | | | | |
| | Eros | 4366·49 | ·00 | 4021·53 | ·00 | ... | ... | | | | | | | |
| October 27 | 52 580 | 1471·00 | +·02 | 3770·79 | ·00 | +·05 | −·27 | 116 | 2996·55 | ·00 | 4421·08 | ·00 | +·14 | −·15 |
| 5193 | 53 525 | 1767·93 | +·03 | 6492·39 | −·02 | −·77* | +·24* | 120 | 3522·74 | ·00 | 4148·14 | ·00 | +·07 | −·21 |
| | 52 581 | 2269·06 | +·01 | 4234·55 | ·00 | −·09 | −·23 | 127 | 4043·58 | ·00 | 2973·33 | ·00 | +·10 | −·20 |
| | 52 585 | 3030·46 | ·00 | 4383·08 | ·00 | +·46 | −·20 | 129 | 4263·75 | ·00 | 5253·41 | ·00 | +·14 | −·16 |

* Not used in forming the finally adopted values of *c.* and *f.* (Table IV.), the star being more than 55′ from the centre of the plate.
† Not used in forming the Mean Correction for Comparison Stars (Table X.), the star being more than 25′ from the centre of the plate.
The number given in column 9 is the reference number assigned to the comparison stars in Tables VIII. and IX.

TABLE II.—Measured Co-ordinates and Residuals, Astrographic 13-inch Refractor.

| Date and Plate No. | Reference Stars. | | | | | | | Comparison Stars. | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | No. in B.D. | x. | Refraction Correction applied. | y. | Refraction Correction applied. | Residuals C—O. | | No. | x. | Refraction Correction applied. | y. | Refraction Correction applied. | Residuals. | |
| | | | | | | x. | y. | | | | | | x. | y. |
| | ° | ″ | ″ | ″ | ″ | ″ | ″ | | ″ | ″ | ″ | ″ | ″ | ″ |
| 1900. October 27 5193—*contd.* | 52 587 | 3539·56 | ·00 | 2653·31 | ·00 | −·04 | −·03 | 130 | 4691·68 | ·00 | 3305·30 | ·00 | +·04 | ·00 |
| | 53 532 | 3672·89 | ·00 | 5501·62 | ·00 | −·01 | +·33 | 132 | 5251·45 | ·00 | 4907·85 | ·00 | −·09 | −·04 |
| | 52 592 | 4730·36 | +·01 | 1844·10 | −·01 | +·06 | +·03 | | | | | | | |
| | 53 539 | 4963·58 | +·01 | 7160·25 | −·01 | +·21 | −·12 | | | | | Mean | +·07 | −·13 |
| | 53 540 | 5138·56 | ·00 | 5965·22 | ·00 | −·20 | +·34 | | | | | | | |
| | 52 595 | 5954·94 | +·02 | 1847·88 | −·02 | +·17 | +·29 | | | | | | | |
| | 52 597 | 5992·54 | +·01 | 3917·98 | ·00 | +·44 | +·10 | | | | | | | |
| | 53 546 | 6602·33 | +·02 | 4948·94 | ·00 | −·16 | +·06 | | | | | | | |
| | Eros | 4353·78 | ·00 | 4029·23 | ·00 | ... | ... | | | | | | | |
| October 27 5200 | 52 580 | 1479·12 | ·00 | 3822·47 | ·00 | +·01 | −·23 | 116 | 3003·26 | ·00 | 4476·29 | ·00 | +·09 | +·10 |
| | 53 525 | 1769·15 | ·00 | 6545·08 | ·00 | −·82* | +·11* | 120 | 3530·34 | ·00 | 4204·39 | ·00 | −·08 | +·24 |
| | 52 581 | 2275·97 | ·00 | 4288·09 | ·00 | +·04 | −·10 | 127 | 4054·25 | ·00 | 3030·96 | ·00 | −·02 | +·07 |
| | 52 585 | 3037·18 | ·00 | 4438·58 | ·00 | +·52 | −·15 | 129 | 4268·65 | ·00 | 5311·61 | ·00 | −·02 | +·17 |
| | 52 587 | 3550·86 | ·00 | 2709·91 | ·00 | −·06 | +·01 | 130 | 4701·53 | ·00 | 3364·75 | ·00 | −·01 | +·01 |
| | 53 532 | 3677·07 | ·00 | 5558·91 | ·00 | −·19 | +·12 | 132 | 5257·32 | ·00 | 4968·50 | ·00 | −·18 | +·19 |
| | 52 592 | 4743·82 | ·00 | 1903·80 | ·00 | +·16 | −·19 | | | | | | | |
| | 53 539 | 4963·61 | ·00 | 7220·67 | ·00 | +·14 | −·30 | | | | | Mean | −·04 | +·13 |
| | 53 540 | 5141·52 | ·00 | 6025·94 | ·00 | −·11 | +·24 | | | | | | | |
| | 52 595 | 5968·81 | ·00 | 1910·54 | ·00 | +·04 | +·03 | | | | | | | |
| | 52 597 | 6001·06 | ·00 | 3980·35 | ·00 | +·36 | +·32 | | | | | | | |
| | 53 546 | 6608·10 | ·00 | 5012·90 | ·00 | −·03 | +·20 | | | | | | | |
| | Eros | 4209·69 | ·00 | 4206·53 | ·00 | ... | ... | | | | | | | |
| October 27 5201 | 52 580 | 1478·62 | ·00 | 3820·83 | ·00 | −·19 | −·09 | 116 | 3003·13 | ·00 | 4473·87 | ·00 | −·04 | −·01 |
| | 53 525 | 1770·22 | ·00 | 6543·42 | ·00 | −·77* | +·07* | 120 | 3529·95 | ·00 | 4201·80 | ·00 | −·12 | −·05 |
| | 52 581 | 2275·80 | ·00 | 4286·08 | ·00 | −·18 | −·13 | 127 | 4052·98 | ·00 | 3027·90 | ·00 | +·03 | −·09 |
| | 52 585 | 3037·14 | ·00 | 4436·01 | ·00 | +·27 | −·18 | 129 | 4268·94 | ·00 | 5308·38 | ·00 | ·00 | +·03 |
| | 52 587 | 3549·31 | ·00 | 2707·13 | ·00 | +·05 | −·09 | 130 | 4700·57 | ·00 | 3361·11 | ·00 | −·05 | −·01 |
| | 53 532 | 3677·50 | ·00 | 5555·75 | ·00 | −·15 | +·30 | 132 | 5257·29 | ·00 | 4964·48 | ·00 | −·08 | +·16 |
| | 52 592 | 4741·87 | ·00 | 1900·18 | ·00 | +·13 | −·25 | | | | | | | |
| | 53 539 | 4965·07 | ·00 | 7216·59 | ·00 | +·27 | −·06 | | | | | Mean | −·04 | +·01 |
| | 53 540 | 5142·21 | ·00 | 6022·13 | ·00 | −·03 | +·09 | | | | | | | |
| | 52 595 | 5966·67 | ·00 | 1906·18 | ·00 | +·20 | −·12 | | | | | | | |
| | 52 597 | 6000·52 | ·00 | 3975·87 | ·00 | +·30 | +·27 | | | | | | | |
| | 53 546 | 6608·02 | ·00 | 5007·99 | ·00 | +·15 | +·17 | | | | | | | |
| | Eros | 4195·02 | ·00 | 4213·73 | ·00 | ... | ... | | | | | | | |
| October 27 5202 | 52 580 | 1469·32 | −·02 | 3817·83 | −·01 | −·06 | −·10 | 116 | 2994·12 | ·00 | 4469·61 | ·00 | −·07 | −·07 |
| | 53 525 | 1762·41 | −·02 | 6539·91 | ·00 | −·52* | +·14* | 120 | 3520·64 | ·00 | 4196·82 | ·00 | −·12 | +·19 |
| | 52 581 | 2266·72 | −·01 | 4282·33 | ·00 | −·14 | −·10 | 127 | 4042·67 | ·00 | 3022·76 | ·00 | +·21 | −·06 |
| | 52 585 | 3028·01 | ·00 | 4431·57 | ·00 | +·31 | −·10 | 129 | 4260·23 | ·00 | 5303·02 | ·00 | −·06 | −·05 |
| | 52 587 | 3539·14 | ·00 | 2702·37 | ·00 | −·03 | ·00 | 130 | 4690·38 | ·00 | 3355·35 | ·00 | +·09 | +·09 |
| | 53 532 | 3668·86 | ·00 | 5550·90 | ·00 | −·04 | +·19 | 132 | 5248·00 | ·00 | 4958·40 | ·00 | +·04 | +·04 |
| | 52 592 | 4731·08 | −·01 | 1894·49 | −·01 | −·05 | −·19 | | | | | | | |
| | 53 539 | 4957·48 | −·02 | 7210·57 | −·02 | +·09 | −·16 | | | | | Mean | +·02 | +·02 |
| | 53 540 | 5133·81 | −·01 | 6015·91 | −·01 | −·15 | +·11 | | | | | | | |

* Not used in forming the finally adopted values of *c.* and *f.* (Table IV.), the star being more than 55′ from the centre of the plate.
† Not used in forming the Mean Correction for Comparison Stars (Table X.), the star being more than 25′ from the centre of the plate.
The number given in column 9 is the reference number assigned to the comparison stars in Tables VIII. and IX.

## TABLE II.—Measured Co-ordinates and Residuals, Astrographic 13-inch Refractor.

| Date and Plate No. | Reference Stars. |  |  |  |  |  |  | Comparison Stars. |  |  |  |  |  |  |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
|  | No. in B.D. | *x*. | Refraction Correction applied. | *y*. | Refraction Correction applied. | Residuals C—O. *x*. | Residuals C—O. *y*. | No. | *x*. | Refraction Correction applied. | *y*. | Refraction Correction applied. | Residuals. *x*. | Residuals. *y*. |
|  | ° | " | " | " | " | " | " |  | " | " | " | " | " | " |
| 1900.<br>October 27<br>5202—*contd.* | 52 595 | 5955·47 | −·01 | 1899·45 | ·00 | +·21 | −·01 |  |  |  |  |  |  |  |
|  | 52 597 | 5990·46 | −·01 | 3969·23 | ·00 | +·41 | +·12 |  |  |  |  |  |  |  |
|  | 53 546 | 6598·73 | −·02 | 5000·73 | −·01 | +·01 | +·07 |  |  |  |  |  |  |  |
|  | Eros | 3964·48 | ·00 | 4361·73 | ·00 | ... | ... |  |  |  |  |  |  |  |
| October 27<br>5203 | 52 580 | 1467·81 | −·02 | 3818·04 | −·01 | −·10 | −·22 | 116 | 2992·46 | −·01 | 4469·82 | ·00 | −·15 | −·03 |
|  | 53 525 | 1760·47 | −·02 | 6539·96 | −·01 | −·69* | +·12* | 120 | 3518·86 | ·00 | 4197·24 | ·00 | −·07 | +·10 |
|  | 52 581 | 2264·94 | −·01 | 4282·58 | −·01 | −·05 | −·18 | 127 | 4041·42 | ·00 | 3023·24 | ·00 | −·04 | −·11 |
|  | 52 585 | 3026·23 | ·00 | 4431·94 | ·00 | +·34 | −·21 | 129 | 4258·34 | ·00 | 5303·38 | ·00 | −·15 | −·03 |
|  | 52 587 | 3537·68 | −·01 | 2702·78 | −·01 | +·02 | −·02 | 130 | 4688·96 | ·00 | 3355·93 | ·00 | −·08 | +·01 |
|  | 53 532 | 3666·88 | ·00 | 5551·18 | ·00 | −·05 | +·21 | 132 | 5246·18 | −·01 | 4958·83 | −·01 | −·08 | +·11 |
|  | 52 592 | 4729·62 | −·01 | 1894·98 | −·01 | +·11 | −·11 |  |  |  |  |  |  |  |
|  | 53 539 | 4955·21 | −·02 | 7211·00 | −·02 | −·01 | −·21 |  |  |  |  | Mean | −·10 | +·01 |
|  | 53 540 | 5131·69 | −·01 | 6016·29 | −·01 | −·17 | +·19 |  |  |  |  |  |  |  |
|  | 52 595 | 5953·99 | −·01 | 1900·14 | −·01 | +·34 | +·01 |  |  |  |  |  |  |  |
|  | 52 597 | 5988·73 | −·01 | 3969·84 | ·00 | +·39 | +·14 |  |  |  |  |  |  |  |
|  | 53 546 | 6596·82 | −·02 | 5001·22 | −·01 | −·07 | +·25 |  |  |  |  |  |  |  |
|  | Eros | 3944·43 | ·00 | 4374·55 | ·00 | ... | ... |  |  |  |  |  |  |  |
| October 28<br>5204 | 52 580 | 1974·77 | −·02 | 3084·04 | −·02 | +·01 | +·21 | 114 | 2825·27 | −·01 | 3886·49 | ·00 | +·05 | +·03 |
|  | 53 525 | 2258·94 | −·01 | 5807·18 | ·00 | −·23 | +·14 | 115 | 3359·04 | ·00 | 5688·43 | ·00 | +·22 | +·03 |
|  | 52 581 | 2770·73 | −·01 | 3551·06 | −·01 | −·18 | +·20 | 116 | 3497·39 | ·00 | 3740·78 | ·00 | +·02 | +·08 |
|  | 52 585 | 3531·49 | ·00 | 3703·06 | ·00 | +·27 | −·17 | 117 | 3526·18 | ·00 | 5743·38 | ·00 | +·03 | +·01 |
|  | 52 587 | 4048·29 | −·01 | 1975·48 | −·01 | −·22 | −·11 | 120 | 4024·82 | ·00 | 3469·98 | ·00 | −·13 | +·01 |
|  | 53 532 | 4168·79 | ·00 | 4824·22 | ·00 | −·15 | +·26 | 127 | 4550·98 | −·01 | 2297·33 | −·01 | −·16† | −·02† |
|  | 53 539 | 5451·76 | −·02 | 6488·03 | −·02 | +·20 | −·29 | 129 | 4760·70 | ·00 | 4578·26 | ·00 | +·05 | ·00 |
|  | 53 540 | 5631·84 | −·01 | 5293·98 | −·01 | +·08 | +·03 | 130 | 5197·45 | ·00 | 2632·24 | ·00 | −·11† | −·14† |
|  | 52 597 | 6495·46 | −·02 | 3250·10 | −·01 | +·29 | −·02 | 132 | 5749·65 | −·01 | 4236·77 | ·00 | +·09† | +·05† |
|  | 53 546 | 7100·31 | −·03 | 4283·67 | −·01 | −·03 | −·22 |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  | Mean | +·04 | +·03 |
|  | Eros | 3523·20 | ·00 | 4325·01 | ·00 | ... | ... |  |  |  |  |  |  |  |
| October 29<br>5205 | 53 519 | 2479·36 | +·02 | 5379·49 | −·01 | +·02 | −·11 | 108 | 1540·46 | +·03 | 4938·64 | −·02 | −·22† | +·03† |
|  | 53 521 | 2538·45 | +·01 | 3879·48 | ·00 | −·09 | −·11 | 111 | 2598·96 | +·02 | 6269·24 | −·02 | −·07† | +·10† |
|  | 52 576 | 2582·69 | +·01 | 2703·43 | ·00 | −·10 | +·02 | 112 | 2735·28 | +·01 | 4381·65 | ·00 | −·03 | −·04 |
|  | 52 580 | 3373·85 | ·00 | 2420·81 | ·00 | +·09 | +·09 | 113 | 3411·42 | ·00 | 4435·42 | ·00 | +·04 | −·03 |
|  | 53 525 | 3633·46 | ·00 | 5146·27 | ·00 | −·25 | +·18 | 114 | 4217·01 | ·00 | 3231·27 | ·00 | +·08 | −·01 |
|  | 52 581 | 4165·35 | ·00 | 2895·51 | ·00 | +·06 | +·04 | 115 | 4734·75 | ·00 | 5038·29 | ·00 | −·04 | −·09 |
|  | 52 585 | 4924·99 | +·01 | 3054·62 | −·01 | +·20 | −·11 | 116 | 4890·52 | +·01 | 3092·10 | ·00 | −·04 | +·01 |
|  | 52 587 | 5457·27 | +·03 | 1331·86 | −·03 | −·10 | +·09 | 117 | 4901·17 | ·00 | 5094·74 | ·00 | −·04 | +·04 |
|  | 53 532 | 5551·80 | +·01 | 4182·04 | ·00 | +·08 | +·15 | 120 | 5420·24 | +·01 | 2826·19 | −·01 | −·04† | +·15† |
|  | 53 539 | 6820·07 | +·02 | 5858·06 | −·01 | +·07 | −·25 | 129 | 6146·41 | +·02 | 3941·71 | −·01 | −·19† | −·04† |
|  | Eros | 4422·57 | ·00 | 4019·96 | ·00 | ... | ... |  |  |  |  | Mean | −·01 | −·02 |
| October 29<br>5206 | 53 519 | 2487·11 | +·01 | 5380·45 | −·01 | +·18 | −·07 | 108 | 1548·40 | +·03 | 4939·31 | −·01 | −·06† | −·04† |
|  | 53 521 | 2547·15 | +·01 | 3880·48 | ·00 | −·13 | −·15 | 111 | 2606·39 | +·02 | 6270·36 | −·02 | −·02† | +·06† |
|  | 52 576 | 2591·93 | +·01 | 2704·48 | ·00 | −·11 | −·08 | 112 | 2743·67 | +·01 | 4382·78 | ·00 | −·01 | −·10 |
|  | 52 580 | 3383·21 | ·00 | 2422·16 | ·00 | +·14 | −·01 | 113 | 3419·76 | ·00 | 4436·81 | ·00 | +·11 | −·06 |
|  | 53 525 | 3641·58 | ·00 | 5147·85 | ·00 | −·28 | +·07 | 114 | 4226·08 | ·00 | 3232·71 | ·00 | +·06 | +·18 |

* Not used in forming the finally adopted values of *c.* and *f.* (Table IV.), the star being more than 55′ from the centre of the plate.

† Not used in forming the Mean Correction for Comparison Stars (Table X.), the star being more than 25′ from the centre of the plate.

The number given in column 9 is the reference number assigned to the comparison stars in Tables VIII. and IX.

TABLE II.—Measured Co-ordinates and Residuals, Astrographic 13-inch Refractor.

| Date and Plate No. | Reference Stars. | | | | | | | Comparison Stars. | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | No. in B.D. | x. | Refraction Correction applied. | y. | Refraction Correction applied. | Residuals C—O. x. | Residuals C—O. y. | No. | x. | Refraction Correction applied. | y. | Refraction Correction applied. | Residuals. x. | Residuals. y. |
| 1900. | ° | ″ | ″ | ″ | ″ | ″ | ″ | | ″ | ″ | ″ | ″ | ″ | ″ |
| October 29<br>5206—*contd.* | 52 581 | 4174·72 | ·00 | 2897·05 | ·00 | −·11 | +·10 | 115 | 4743·03 | ·00 | 5040·00 | ·00 | −·15 | +·12 |
| | 52 585 | 4934·07 | ·00 | 3056·45 | ·00 | +·28 | −·02 | 116 | 4899·66 | ·00 | 3094·04 | ·00 | −·05 | −·03 |
| | 52 587 | 5467·34 | +·02 | 1333·86 | −·02 | −·15 | +·15 | 117 | 4909·28 | ·00 | 5096·71 | ·00 | +·01 | +·06 |
| | 53 532 | 5560·50 | +·01 | 4184·12 | ·00 | +·01 | +·28 | 120 | 5429·59 | +·01 | 2828·25 | −·01 | −·10† | +·20† |
| | 53 539 | 6827·81 | +·02 | 5860·84 | ·00 | +·18 | −·22 | 129 | 6155·06 | +·01 | 3944·03 | −·01 | −·07† | +·09† |
| | Eros | 4413·91 | ·00 | 4034·07 | ·00 | ... | ... | | | | | Mean | −·01 | +·03 |
| October 31<br>5207 | 53 497 | 1405·30 | −·02 | 4614·74 | −·01 | −·06 | +·04 | 108 | 3532·05 | ·00 | 3843·04 | ·00 | +·11 | ·00 |
| | 52 563 | 1637·93 | −·04 | 2079·71 | −·03 | +·13 | −·25 | 111 | 4571·97 | ·00 | 5187·67 | ·00 | +·13 | −·07 |
| | 53 501 | 1673·85 | −·02 | 3950·11 | −·01 | +·04 | −·22 | 112 | 4734·58 | ·00 | 3301·78 | ·00 | +·10 | +·13 |
| | 53 507 | 2877·47 | −·01 | 5437·81 | ·00 | −·39 | +·15 | 113 | 5410·19 | −·01 | 3364·59 | ·00 | −·13 | +·11 |
| | 54 530 | 3626·25 | −·02 | 7491·62 | −·02 | +·53 | +·28 | 114 | 6232·56 | −·01 | 2171·38 | ·00 | −·09 | −·13 |
| | 53 521 | 4544·99 | ·00 | 2797·15 | ·00 | −·23 | −·16 | 115 | 6724·93 | −·02 | 3985·08 | −·01 | ·00 | +·03 |
| | 52 576 | 4605·16 | −·01 | 1621·84 | −·01 | +·16 | −·16 | 117 | 6890·66 | −·02 | 4043·84 | −·01 | −·07 | +·08 |
| | 53 525 | 5622·10 | −·01 | 4078·52 | ·00 | −·18 | +·03 | | | | | | | |
| | 52 581 | 6185·67 | −·01 | 1834·95 | −·01 | −·22 | −·24 | | | | | Mean | +·01 | +·02 |
| | 54 554 | 6783·16 | −·05 | 7163·73 | −·04 | +·24* | +·56* | | | | | | | |
| | Eros | 3976·73 | ·00 | 4326·17 | ·00 | ... | ... | | | | | | | |
| October 31<br>5208 | 53 497 | 1408·57 | −·03 | 4617·61 | −·01 | −·19 | +·22 | 108 | 3534·58 | ·00 | 3844·80 | ·00 | +·20 | −·01 |
| | 52 563 | 1639·69 | −·05 | 2082·61 | −·04 | +·18 | −·12 | 111 | 4575·43 | ·00 | 5188·71 | ·00 | −·05 | −·08 |
| | 53 501 | 1676·68 | −·03 | 3952·97 | −·01 | −·01 | −·18 | 112 | 4737·05 | ·00 | 3302·93 | ·00 | −·06 | +·03 |
| | 53 507 | 2880·70 | −·01 | 5439·90 | ·00 | −·11 | +·16 | 113 | 5412·39 | −·01 | 3365·35 | ·00 | −·02 | −·02 |
| | 53 521 | 4547·04 | ·00 | 2798·34 | ·00 | −·19 | −·13 | 114 | 6234·22 | −·01 | 2171·54 | −·01 | −·09 | −·10 |
| | 52 576 | 4606·60 | −·01 | 1623·13 | −·01 | +·20 | −·21 | 115 | 6727·57 | −·02 | 3985·00 | −·01 | −·01 | −·10 |
| | 53 525 | 5624·81 | −·01 | 4079·01 | ·00 | −·16 | +·03 | 117 | 6893·18 | −·02 | 4043·78 | −·01 | +·04 | −·17 |
| | 52 581 | 6187·16 | −·01 | 1835·30 | −·01 | −·16 | −·32 | | | | | | | |
| | 54 554 | 6787·27 | −·06 | 7163·35 | −·05 | +·42* | +·56* | | | | | Mean | ·00 | −·06 |
| | Eros | 3960·87 | ·00 | 4335·60 | ·00 | ... | ... | | | | | | | |
| November 6<br>5209 | 53 453 | 2434·56 | +·01 | 3630·07 | ·00 | −·07 | +·12 | 95 | 3272·99 | ·00 | 3116·50 | ·00 | +·01 | −·01 |
| | 54 469 | 3272·08 | +·01 | 6814·60 | −·01 | −·02 | −·13 | 96 | 3985·97 | ·00 | 5058·56 | ·00 | +·20 | +·10 |
| | 53 459 | 3346·71 | ·00 | 2650·20 | ·00 | +·13 | +·01 | 99 | 4158·40 | +·01 | 1637·82 | −·01 | (·00) | (·00) |
| | 54 470 | 3428·70 | +·01 | 6111·16 | −·01 | −·07 | −·21 | | | | | | | |
| | 53 470 | 4220·98 | ·00 | 3447·34 | ·00 | +·09 | +·29 | | | | | Mean | (+·10) | (+·05) |
| | 54 483 | 4845·76 | ·00 | 5470·73 | ·00 | +·16 | −·19 | | | | | | | |
| | 53 474 | 4987·94 | +·01 | 2258·44 | −·01 | + 05 | +·18 | | | | | | | |
| | 54 494 | 5626·13 | +·01 | 6225·53 | ·00 | +·01 | −·20 | | | | | | | |
| | 53 486 | 5853·39 | +·01 | 3400·00 | ·00 | −·10 | +·09 | | | | | | | |
| | 54 497 | 5938·90 | +·01 | 5405·20 | ·00 | −·20 | +·06 | | | | | | | |
| | Eros | 4450·39 | ·00 | 4143·20 | ·00 | ... | ... | | | | | | | |
| November 7<br>5210 | 54 452 | 1618·22 | −·03 | 4085·64 | −·02 | −·03 | −·06 | 88 | 1227·43 | −·04 | 4309·70 | −·02 | +·25† | +·25† |
| | 54 457 | 2244·31 | −·02 | 4697·65 | −·01 | +·17 | +·01 | 90 | 1750·39 | −·04 | 2953·87 | −·03 | +·30† | +·03† |
| | 53 451 | 2695·97 | −·02 | 2462·49 | −·02 | +·12 | +·15 | 92 | 2388·83 | −·01 | 3976·32 | −·01 | +·18 | −·14 |
| | 53 453 | 3530·10 | ·00 | 3525·12 | ·00 | −·10 | +·28 | 93 | 2464·04 | −·01 | 4615·91 | −·01 | +·29 | +·07 |
| | 54 469 | 4346·12 | −·02 | 6714·48 | −·02 | +·05 | −·38 | 94 | 3322·51 | ·00 | 5024·85 | ·00 | −·01 | +·04 |

* Not used in forming the finally adopted values of *c.* and *f.* (Table IV.), the star being more than 55′ from the centre of the plate.
† Not used in forming the Mean Correction for Comparison Stars (Table X.), the star being more than 25′ from the centre of the plate.
The number given in column 9 is the reference number assigned to the comparison stars in Tables VIII. and IX.

## TABLE II.—Measured Co-ordinates and Residuals, Astrographic 13-inch Refractor.

| Date and Plate No. | Reference Stars. | | | | | | | Comparison Stars. | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | No. in B.D. | x. | Refraction Correction applied. | y. | Refraction Correction applied. | Residuals C—O. | | No. | x. | Refraction Correction applied. | y. | Refraction Correction applied. | Residuals. | |
| | | | | | | x. | y. | | | | | | x. | y. |
| 1900. | ° | " | " | " | " | " | " | | " | " | " | " | " | " |
| November 7 5210—*contd.* | 53 459 | 4448·61 | −·01 | 2551·06 | −·01 | +·10 | −·02 | 95 | 4371·60 | ·00 | 3016·77 | ·00 | +·09 | +·09 |
| | 54 470 | 4507·31 | −·01 | 6012·07 | −·01 | +·09 | −·42 | 96 | 5072·08 | ·00 | 4962·80 | −·01 | −·27 | +·13 |
| | 53 470 | 5317·66 | ·00 | 3353·23 | ·00 | −·16 | +·30 | 98 | 5252·85 | ·00 | 3643·31 | ·00 | −·13 | ·00 |
| | 54 483 | 5928·98 | −·02 | 5379·84 | −·02 | −·21 | +·06 | | | | | | | |
| | 53 474 | 6092·28 | −·01 | 2169·18 | −·01 | −·02 | +·12 | | | | | Mean | +·03 | +·03 |
| | Eros | 3930·39 | ·00 | 4245·07 | ·00 | ... | ... | | | | | | | |
| November 7 5211 | 54 452 | 1613·92 | −·04 | 4085·53 | −·03 | +·03 | −·07 | 88 | 1223·43 | −·04 | 4309·67 | −·03 | −·04† | +·08† |
| | 54 457 | 2239·90 | −·01 | 4697·45 | −·01 | +·13 | +·02 | 90 | 1746·80 | −·05 | 2953·84 | −·04 | −·02† | +·14† |
| | 53 451 | 2692·32 | −·03 | 2462·69 | −·04 | −·05 | +·18 | 92 | 2384·89 | −·02 | 3976·11 | −·02 | −·14 | +·01 |
| | 53 453 | 3526·01 | −·01 | 3525·35 | −·01 | −·19 | +·15 | 93 | 2459·85 | −·01 | 4616·03 | −·01 | +·03 | −·21 |
| | 54 469 | 4340·84 | −·02 | 6714·27 | −·03 | +·13 | −·55 | 94 | 3317·65 | ·00 | 5024·80 | ·00 | +·22 | −·07 |
| | 53 459 | 4444·70 | −·01 | 2551·37 | −·01 | +·05 | +·01 | 95 | 4367·73 | ·00 | 3017·19 | −·01 | −·12 | −·08 |
| | 54 470 | 4502·27 | −·02 | 6011·90 | −·02 | +·13 | −·49 | 96 | 5067·04 | −·01 | 4963·11 | −·01 | +·06 | −·23 |
| | 53 470 | 5313·26 | ·00 | 3353·29 | ·00 | −·02 | +·52 | 98 | 5248·24 | ·00 | 3643·51 | ·00 | +·14 | +·01 |
| | 54 483 | 5923·94 | −·02 | 5379·93 | −·03 | −·06 | −·07 | | | | | | | |
| | 53 474 | 6088·44 | −·01 | 2169·52 | −·01 | −·12 | +·30 | | | | | Mean | +·03 | −·10 |
| | Eros | 3892·03 | ·00 | 4246·00 | ·00 | ... | ... | | | | | | | |
| November 9 5212 | 53 437 | 2384·93 | +·01 | 1262·44 | ·00 | +·08 | −·12 | 86 | 2758·71 | ·00 | 3034·92 | ·00 | −·07† | −·02† |
| | 54 444 | 2997·59 | +·01 | 5638·18 | −·01 | −·12 | −·10 | 87 | 3060·25 | ·00 | 5029·27 | ·00 | −·01 | −·02 |
| | 53 440 | 3138·98 | ·00 | 3699·04 | ·00 | +·01 | −·21 | 88 | 3386·13 | ·00 | 4144·11 | ·00 | +·03 | −·08 |
| | 55 484 | 3333·09 | +·02 | 7569·23 | −·02 | −·17* | +·35* | 90 | 3929·38 | ·00 | 2796·26 | ·00 | −·03 | −·08 |
| | 54 448 | 3336·35 | ·00 | 5235·96 | ·00 | +·32 | −·05 | 92 | 4552·41 | ·00 | 3828·43 | ·00 | +·04 | −·08 |
| | 54 452 | 3779·83 | ·00 | 3925·95 | ·00 | +·12 | −·18 | 93 | 4618·20 | ·00 | 4469·43 | ·00 | −·08 | −·07 |
| | 54 453 | 3963·54 | +·01 | 7049·48 | −·01 | +·02 | −·01 | 94 | 5470·21 | ·00 | 4891·71 | ·00 | ·00 | −·05 |
| | 54 457 | 4396·71 | ·00 | 4547·62 | ·00 | +·36 | −·05 | | | | | | | |
| | 53 451 | 4882·07 | +·01 | 2319·39 | −·01 | −·05 | +·14 | | | | | Mean | −·01 | −·06 |
| | 53 453 | 5700·25 | +·01 | 3395·08 | ·00 | −·17 | +·19 | | | | | | | |
| | 54 469 | 6468·87 | +·02 | 6597·32 | ·00 | −·14 | −·33 | | | | | | | |
| | 53 459 | 6633·57 | +·02 | 2434·98 | −·01 | −·10 | +·09 | | | | | | | |
| | 54 470 | 6640·34 | +·02 | 5897·33 | ·00 | +·13 | −·32 | | | | | | | |
| | 53 470 | 7490·62 | +·03 | 3250·47 | −·01 | −·19* | +·67* | | | | | | | |
| | Eros | 4448·81 | ·00 | 4188·20 | ·00 | ... | ... | | | | | | | |
| November 9 5213 | 53 437 | 2377·49 | +·01 | 1233·48 | ·00 | +·20 | −·22 | 81 | 1909·02 | ·00 | 4851·74 | ·00 | +·15† | +·06† |
| | 54 444 | 3011·43 | ·00 | 5605·96 | ·00 | −·15 | +·06 | 86 | 2759·85 | ·00 | 3004·01 | ·00 | +·02† | −·03† |
| | 53 440 | 3143·36 | ·00 | 3665·99 | ·00 | +·09 | +·07 | 87 | 3071·05 | ·00 | 4996·86 | ·00 | +·07 | −·01 |
| | 54 448 | 3348·30 | ·00 | 5202·27 | ·00 | +·25 | −·10 | 88 | 3392·82 | ·00 | 4110·12 | ·00 | −·06 | −·09 |
| | 55 484 | 3356·07 | +·01 | 7535·72 | ·00 | −·01* | +·14* | 90 | 3929·51 | ·00 | 2759·38 | ·00 | −·03 | +·11 |
| | 54 452 | 3785·50 | ·00 | 3889·85 | ·00 | +·04 | −·01 | 92 | 4557·51 | ·00 | 3788·61 | ·00 | +·09 | −·01 |
| | 54 453 | 3984·13 | +·01 | 7012·61 | ·00 | +·06 | +·03 | 93 | 4626·28 | ·00 | 4429·36 | ·00 | +·09 | −·08 |
| | 54 457 | 4405·53 | ·00 | 4508·61 | ·00 | +·14 | +·01 | 94 | 5480·45 | ·00 | 4847·45 | ·00 | +·07 | −·05 |
| | 53 451 | 4879·98 | ·00 | 2278·00 | ·00 | −·09 | +·17 | | | | | | | |
| | 53 453 | 5703·42 | ·00 | 3349·81 | ·00 | −·24 | +·08 | | | | | Mean | +·04 | −·02 |
| | 54 469 | 6487·34 | +·01 | 6548·15 | ·00 | −·03 | −·32 | | | | | | | |
| | 53 459 | 6631·92 | +·01 | 2385·18 | ·00 | +·06 | −·09 | | | | | | | |
| | 53 470 | 7493·07 | +·02 | 3196·67 | ·00 | −·16* | +·27* | | | | | | | |
| | Eros | 4398·26 | ·00 | 4152·10 | ·00 | ... | ... | | | | | | | |

* Not used in forming the finally adopted values of *c.* and *f.* (Table IV.), the star being more than 55′ from the centre of the plate.
† Not used in forming the Mean Correction for Comparison Stars (Table X.), the star being more than 25′ from the centre of the plate.
The number given in column 9 is the reference number assigned to the comparison stars in Tables VIII. and IX.

TABLE II.—Measured Co-ordinates and Residuals, Astrographic 13-inch Refractor.

| Date and Plate No. | Reference Stars. | | | | | | | Comparison Stars. | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | No. in B.D. | x. | Refraction Correction applied. | y. | Refraction Correction applied. | Residuals C—O. | | No. | x. | Refraction Correction applied. | y. | Refraction Correction applied. | Residuals. | |
| | | | | | | x. | y. | | | | | | x. | y. |
| 1900. | ° | " | " | " | " | " | " | | " | " | " | " | " | " |
| November 9<br>5214 | 53 437 | 2395·88 | ·00 | 1284·20 | ·00 | +·41 | −·07 | 81 | 1911·08 | ·00 | 4900·21 | ·00 | +·18† | +·35† |
| | 54 444 | 3009·94 | ·00 | 5659·86 | ·00 | +·09 | −·05 | 86 | 2770·47 | ·00 | 3056·40 | ·00 | ·00† | +·14† |
| | 53 440 | 3151·06 | ·00 | 3720·31 | ·00 | −·01 | +·10 | 87 | 3072·53 | ·00 | 5050·68 | ·00 | +·14 | +·16 |
| | 55 484 | 3345·91 | ·00 | 7591·34 | ·00 | +·15* | −·10* | 88 | 3398·35 | ·00 | 4165·29 | ·00 | +·04 | +·17 |
| | 54 448 | 3348·94 | ·00 | 5257·46 | ·00 | +·23 | +·02 | 90 | 3941·34 | ·00 | 2817·18 | ·00 | −·03 | +·14 |
| | 54 452 | 3792·50 | ·00 | 3947·14 | ·00 | −·33 | −·05 | 92 | 4564·73 | ·00 | 3849·05 | ·00 | +·06 | +·22 |
| | 54 453 | 3976·73 | ·00 | 7070·97 | ·00 | −·06 | −·13 | 93 | 4630·74 | ·00 | 4490·03 | ·00 | −·09 | +·24 |
| | 54 457 | 4409·69 | ·00 | 4568·57 | ·00 | −·14 | +·09 | 94 | 5482·86 | ·00 | 4912·17 | ·00 | +·13 | +·06 |
| | 53 451 | 4894·06 | ·00 | 2340·16 | ·00 | −·09 | +·17 | | | | | | | |
| | 53 453 | 5712·67 | ·00 | 3415·54 | ·00 | −·21 | +·23 | | | | | Mean | +·04 | +·17 |
| | 54 469 | 6481·98 | ·00 | 6617·36 | ·00 | +·13 | −·07 | | | | | | | |
| | 53 459 | 6645·59 | ·00 | 2455·16 | ·00 | +·16 | −·02 | | | | | | | |
| | 54 470 | 6653·59 | ·00 | 5917·46 | ·00 | +·09 | −·25 | | | | | | | |
| | 53 470 | 7503·30 | ·00 | 3270·59 | ·00 | −·23* | +·29* | | | | | | | |
| | Eros | 4251·07 | ·00 | 4215·02 | ·00 | ... | ... | | | | | | | |
| November 9<br>5215 | 53 437 | 2390·52 | −·02 | 1285·35 | −·01 | +·06 | +·10 | 81 | 1904·88 | −·01 | 4901·74 | ·00 | +·01† | +·01† |
| | 54 444 | 3003·57 | ·00 | 5661·13 | ·00 | −·20 | −·01 | 86 | 2764·55 | ·00 | 3057·93 | ·00 | −·18† | −·06† |
| | 53 440 | 3144·79 | ·00 | 3721·73 | ·00 | −·02 | +·05 | 87 | 3066·10 | ·00 | 5052·34 | ·00 | +·04 | −·17 |
| | 55 484 | 3339·13 | −·01 | 7592·77 | ·00 | −·15* | −·23* | 88 | 3392·06 | ·00 | 4166·87 | ·00 | −·06 | −·02 |
| | 54 448 | 3342·42 | ·00 | 5258·83 | ·00 | +·13 | +·01 | 90 | 3935·14 | ·00 | 2818·93 | ·00 | −·01 | −·13 |
| | 54 452 | 3785·75 | ·00 | 3948·51 | ·00 | +·02 | +·02 | 92 | 4558·49 | ·00 | 3850·76 | ·00 | −·15 | +·06 |
| | 54 457 | 4402·94 | ·00 | 4570·07 | ·00 | +·02 | +·10 | 93 | 4624·29 | ·00 | 4492·01 | ·00 | −·23 | −·20 |
| | 53 451 | 4887·84 | ·00 | 2341·82 | ·00 | −·06 | +·13 | 94 | 5476·42 | ·00 | 4913·91 | ·00 | −·20 | −·04 |
| | 53 453 | 5706·11 | ·00 | 3417·18 | ·00 | −·15 | +·29 | | | | | | | |
| | 54 469 | 6474·58 | −·02 | 6619·27 | −·01 | +·29 | −·24 | | | | | Mean | −·10 | −·08 |
| | 53 459 | 6639·14 | −·01 | 2457·17 | ·00 | +·19 | −·19 | | | | | | | |
| | 54 470 | 6646·56 | −·02 | 5919·20 | −·01 | +·02 | −·21 | | | | | | | |
| | 53 470 | 7496·43 | −·02 | 3272·59 | ·00 | −·02* | +·23* | | | | | | | |
| | Eros | 4059·62 | ·00 | 4208·98 | ·00 | ... | ... | | | | | | | |
| November 9<br>5216 | 53 437 | 2405·92 | −·06 | 1299·40 | −·06 | +·63 | +·02 | 81 | 1919·09 | −·02 | 4915·09 | −·01 | −·05† | −·13† |
| | 54 444 | 3017·06 | −·01 | 5674·40 | ·00 | −·16 | −·14 | 86 | 2779·34 | −·02 | 3071·59 | −·01 | −·02† | −·06† |
| | 53 440 | 3159·45 | ·00 | 3735·43 | ·00 | −·16 | −·10 | 87 | 3080·10 | ·00 | 5065·53 | ·00 | −·14 | −·06 |
| | 55 484 | 3351·61 | −·02 | 7605·31 | −·03 | −·20* | +·03* | 88 | 3406·34 | ·00 | 4180·59 | ·00 | −·11 | −·24 |
| | 54 448 | 3356·17 | ·00 | 5272·11 | ·00 | +·05 | −·01 | 90 | 3950·03 | −·01 | 2832·92 | −·01 | −·07 | −·30 |
| | 54 452 | 3800·43 | ·00 | 3962·28 | ·00 | −·38 | −·19 | 92 | 4572·70 | ·00 | 3864·59 | ·00 | −·20 | −·10 |
| | 54 453 | 3982·57 | −·02 | 7085·11 | −·03 | −·37 | +·09 | 93 | 4638·04 | ·00 | 4505·18 | ·00 | −·16 | +·18 |
| | 54 457 | 4416·98 | ·00 | 4583·58 | ·00 | −·20 | +·09 | 94 | 5489·68 | −·01 | 4927·40 | ·00 | −·05 | +·02 |
| | 53 451 | 4904·88 | −·01 | 2355·92 | −·01 | −·19 | +·01 | | | | | | | |
| | 53 453 | 5719·99 | −·01 | 3431·24 | ·00 | +·14 | +·07 | | | | | Mean | −·12 | −·08 |
| | 54 469 | 6487·19 | −·07 | 6632·43 | −·05 | ·00 | −·13 | | | | | | | |
| | 53 459 | 6653·39 | −·02 | 2471·03 | −·01 | +·43 | +·06 | | | | | | | |
| | 54 470 | 6658·85 | −·05 | 5932·46 | −·04 | +·38 | −·05 | | | | | | | |
| | 53 470 | 7510·10 | −·04 | 3286·48 | −·02 | +·19* | +·37* | | | | | | | |
| | Eros | 3948·49 | ·00 | 4211·81 | ·00 | ... | ... | | | | | | | |
| November 9<br>5217 | 53 437 | 2401·89 | −·07 | 1284·14 | −·07 | +·48 | +·01 | 81 | 1916·74 | −·02 | 4899·65 | −·01 | ·00† | +·01† |
| | 54 444 | 3014·95 | −·01 | 5658·22 | −·01 | +·01 | −·07 | 86 | 2776·16 | −·02 | 3055·87 | −·02 | −·12† | −·03† |
| | 53 440 | 3156·49 | −·01 | 3719·21 | −·01 | −·14 | +·11 | 87 | 3077·91 | ·00 | 5049·52 | ·00 | −·20 | −·14 |

* Not used in forming the finally adopted values of *c.* and *f.* (Table IV.), the star being more than 55′ from the centre of the plate.

† Not used in forming the Mean Correction for Comparison Stars (Table X.), the star being more than 25′ from the centre of the plate.

The number given in column 9 is the reference number assigned to the comparison stars in Tables VIII. and IX.

TABLE II.—Measured Co-ordinates and Residuals, Astrographic 13-inch Refractor.

| Date and Plate No. | Reference Stars. | | | | | | | Comparison Stars. | | | | | | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| | No. in B.D. | x. | Refraction Correction applied. | y. | Refraction Correction applied. | Residuals. C—O. x. | Residuals. C—O. y. | No. | x. | Refraction Correction applied. | y. | Refraction Correction. applied. | Residuals. x. | Residuals. y. |
| 1900. | ° | " | " | " | " | " | " | | " | " | " | " | " | " |
| November 9 | 55 484 | 3350·64 | −·03 | 7588·69 | −·04 | −·16* | +·13* | 88 | 3403·61 | ·00 | 4164·14 | ·00 | −·11 | −·01 |
| 5217—*contd.* | 54 448 | 3353·97 | ·00 | 5255·93 | ·00 | +·11 | −·12 | 90 | 3946·66 | −·01 | 2816·19 | −·01 | −·14 | −·01 |
| | 54 452 | 3797·48 | ·00 | 3945·63 | ·00 | −·28 | ·00 | 92 | 4569·77 | ·00 | 3847·73 | ·00 | −·21 | −·20 |
| | 54 453 | 3981·15 | −·03 | 7068·40 | −·04 | −·19 | −·10 | 93 | 4635·47 | ·00 | 4488·30 | ·00 | −·20 | ·00 |
| | 54 457 | 4414·18 | ·00 | 4566·82 | ·00 | +·05 | −·07 | 94 | 5487·36 | −·01 | 4909·73 | −·01 | −·15 | +·02 |
| | 53 451 | 4899·09 | −·01 | 2338·79 | −·01 | −·13 | +·12 | | | | | | | |
| | 53 453 | 5717·20 | −·01 | 3413·46 | ·00 | −·27 | +·18 | | | | | Mean | −·17 | −·06 |
| | 54 469 | 6485·52 | −·07 | 6613·97 | −·07 | +·10 | −·18 | | | | | | | |
| | 53 459 | 6649·80 | −·02 | 2453·00 | −·01 | +·28 | −·09 | | | | | | | |
| | 54 470 | 6657·03 | −·06 | 5914·06 | −·05 | +·27 | −·19 | | | | | | | |
| | 53 470 | 7506·91 | −·04 | 3267·66 | −·03 | +·03* | +·35* | | | | | | | |
| | Eros | 3923·96 | ·00 | 4913·15 | ·00 | ... | ... | | | | | | | |
| November 10 | 54 424 | 1332·82 | +·03 | 6179·33 | −·02 | +·27 | +·07 | 77 | 1984·80 | +·02 | 4579·78 | ·00 | −·04† | −·12† |
| 5218 | 53 428 | 1483·06 | +·02 | 3433·23 | ·00 | −·30 | +·11 | 80 | 2761·03 | ·00 | 2959·41 | ·00 | +·01† | −·01† |
| | 54 429 | 1840·36 | +·03 | 6937·44 | −·02 | −·11* | +·19* | 81 | 2949·37 | +·01 | 4907·74 | ·00 | −·02 | −·01 |
| | 53 437 | 3460·17 | +·01 | 1295·33 | −·01 | +·26 | −·18 | 86 | 3821·62 | ·00 | 3070·25 | ·00 | +·08 | ·00 |
| | 53 439 | 3608·65 | ·00 | 2989·87 | ·00 | +·09 | +·05 | 87 | 4109·36 | ·00 | 5066·55 | ·00 | +·02 | +·08 |
| | 54 444 | 4042·46 | ·00 | 5675·06 | ·00 | −·11 | −·10 | 88 | 4441·64 | ·00 | 4183·82 | ·00 | −·20 | −·11 |
| | 53 440 | 4197·17 | ·00 | 3736·89 | ·00 | +·28 | −·11 | 90 | 4993·92 | +·01 | 2839·57 | ·00 | +·11 | +·10 |
| | 55 484 | 4364·59 | +·01 | 7608·58 | −·01 | −·25* | +·18* | 92 | 5609·93 | +·01 | 3876·14 | ·00 | ·00 | +·06 |
| | 54 448 | 4384·13 | ·00 | 5275·40 | ·00 | +·20 | −·21 | 93 | 5671·05 | +·01 | 4517·54 | ·00 | +·09 | +·09 |
| | 54 452 | 4836·82 | ·00 | 3968·36 | ·00 | −·08 | −·19 | 94 | 6520·33 | +·01 | 4945·80 | ·00 | −·04† | +·11† |
| | 54 453 | 4998·79 | +·01 | 7093·06 | −·01 | −·20 | +·03 | | | | | | | |
| | 54 457 | 5449·42 | +·01 | 4594·29 | ·00 | +·09 | −·03 | | | | | Mean | +·01 | +·03 |
| | 53 451 | 5950·10 | +·02 | 2369·45 | −·01 | −·11 | +·16 | | | | | | | |
| | 53 453 | 6760·85 | +·02 | 3450·90 | −·01 | −·26 | +·15 | | | | | | | |
| | 53 459 | 7700·34 | +·04 | 2497·24 | −·02 | +·40* | +·06* | | | | | | | |
| | Eros | 4435·76 | ·00 | 4198·83 | ·00 | ... | ... | | | | | | | |
| November 10 | 54 424 | 1409·51 | +·03 | 6170·12 | −·01 | +·01 | +·14 | 77 | 2062·59 | +·01 | 4571·19 | ·00 | +·12† | −·12† |
| 5219 | 53 428 | 1562·02 | +·02 | 3424·27 | ·00 | −·21 | +·01 | 80 | 2840·38 | ·00 | 2951·59 | ·00 | +·16† | −·10† |
| | 54 429 | 1916·03 | +·03 | 6928·71 | −·02 | −·05* | +·25* | 81 | 3026·93 | +·01 | 4900·22 | ·00 | +·09 | −·19 |
| | 53 437 | 3541·17 | +·01 | 1288·07 | ·00 | +·40 | −·22 | 86 | 3900·89 | ·00 | 3063·40 | ·00 | +·25 | −·09 |
| | 54 444 | 4119·33 | ·00 | 5668·27 | ·00 | +·02 | +·01 | 87 | 4186·87 | ·00 | 5060·18 | ·00 | +·06 | −·19 |
| | 53 440 | 4276·10 | ·00 | 3730·34 | ·00 | +·20 | −·15 | 88 | 4519·71 | ·00 | 4177·34 | ·00 | +·13 | +·02 |
| | 55 484 | 4439·61 | +·01 | 7602·30 | −·01 | −·11* | +·11* | 90 | 5073·79 | +·01 | 2833·88 | ·00 | −·07 | −·09 |
| | 54 448 | 4461·44 | ·00 | 5268·77 | ·00 | +·27 | +·04 | 92 | 5688·61 | +·01 | 3871·09 | ·00 | +·04 | −·19 |
| | 54 452 | 4915·26 | ·00 | 3962·34 | ·00 | +·12 | −·17 | 93 | 5749·35 | ·00 | 4512·52 | ·00 | −·09 | −·13 |
| | 54 453 | 5074·36 | +·01 | 7087·30 | −·01 | −·10 | +·01 | 94 | 6598·08 | +·02 | 4941·69 | ·00 | −·06† | −·24† |
| | 54 457 | 5527·48 | ·00 | 4588·83 | ·00 | +·09 | +·01 | | | | | | | |
| | 53 451 | 6030·40 | +·01 | 2364·51 | −·01 | −·22 | +·08 | | | | | Mean | +·06 | −·12 |
| | 53 453 | 6839·96 | +·02 | 3446·64 | −·01 | −·18 | +·16 | | | | | | | |
| | Eros | 4495·02 | ·00 | 4192·57 | ·00 | ... | ... | | | | | | | |
| November 10 | 54 424 | 1349·73 | +·02 | 6175·88 | −·01 | +·05 | +·17 | 77 | 2002·62 | +·01 | 4576·75 | ·00 | −·10† | −·09† |
| 5220 | 53 428 | 1501·48 | +·01 | 3429·92 | ·00 | −·18 | +·10 | 80 | 2779·81 | ·00 | 2956·91 | ·00 | +·13† | −·09† |
| | 54 429 | 1856·61 | +·02 | 6934·39 | −·01 | −·15* | +·18* | 81 | 2967·10 | ·00 | 4905·37 | ·00 | −·14 | −·07 |
| | 53 437 | 3480·17 | +·01 | 1293·14 | ·00 | +·35 | −·20 | 86 | 3840·43 | ·00 | 3068·19 | ·00 | +·16 | +·11 |

* Not used in forming the finally adopted values of *c.* and *f.* (Table IV.), the star being more than 55′ from the centre of the plate.
† Not used in forming the Mean Correction for Comparison Stars (Table X.), the star being more than 25′ from the centre of the plate.
The number given in column 9 is the reference number assigned to the comparison stars in Tables VIII. and IX.

TABLE II.—Measured Co-ordinates and Residuals, Astrographic 13-inch Refractor.

| Date and Plate No. | Reference Stars. | | | | | | | Comparison Stars. | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | No. in B.D. | x. | Refraction Correction applied. | y. | Refraction Correction applied. | Residuals C—O. | | No. | x. | Refraction Correction applied. | y. | Refraction Correction applied. | Residuals. | |
| | | | | | | x. | y. | | | | | | x. | y. |
| | • | " | " | " | " | " | " | | " | " | " | " | " | " |
| 1900. November 10 5220—*contd.* | 54 444 | 4059·56 | ·00 | 5673·26 | ·00 | −·01 | −·07 | 87 | 4126·78 | ·00 | 5064·88 | ·00 | +·17 | ·00 |
| | 53 440 | 4215·71 | ·00 | 3735·11 | ·00 | +·25 | −·06 | 88 | 4459·56 | ·00 | 4182·44 | ·00 | +·06 | −·29 |
| | 55 484 | 4380·51 | +·01 | 7607·07 | −·01 | −·26* | +·15* | 90 | 5013·14 | ·00 | 2838·31 | ·00 | +·01 | +·10 |
| | 54 448 | 4401·48 | ·00 | 5273·86 | ·00 | +·32 | −·25 | 92 | 5628·32 | ·00 | 3875·38 | ·00 | +·06 | −·07 |
| | 54 452 | 4855·11 | ·00 | 3966·91 | ·00 | +·01 | −·08 | 93 | 5689·12 | ·00 | 4516·74 | ·00 | +·05 | +·06 |
| | 54 453 | 5015·10 | +·01 | 7092·06 | ·00 | −·22 | −·15 | 94 | 6538·09 | +·01 | 4945·54 | ·00 | −·01† | +·05† |
| | 54 457 | 5467·31 | ·00 | 4593·40 | ·00 | +·20 | −·10 | | | | | | | |
| | 53 451 | 5969·52 | +·01 | 2368·68 | −·01 | −·01 | +·22 | | | | | Mean | +·05 | −·02 |
| | 53 453 | 6779·65 | +·02 | 3450·59 | ·00 | −·21 | +·25 | | | | | | | |
| | Eros | 4417·80 | ·00 | 4197·25 | ·00 | ... | ... | | | | | | | |
| November 10 5222 | 54 424 | 1345·17 | ·00 | 6222·38 | ·00 | +·33 | +·19 | 77 | 1996·65 | ·00 | 4622·00 | ·00 | +·20† | +·39† |
| | 53 428 | 1494·25 | ·00 | 3475·82 | ·00 | +·14 | +·53 | 80 | 2772·57 | ·00 | 2701·54 | ·00 | −·25† | −·02† |
| | 54 429 | 1852·86 | ·00 | 6980·88 | ·00 | +·09* | −·27* | 81 | 2961·54 | ·00 | 4949·93 | ·00 | +·15 | +·12 |
| | 53 437 | 3471·29 | ·00 | 1337·34 | ·00 | +·49 | −·15 | 86 | 3833·65 | ·00 | 3111·93 | ·00 | +·01 | +·18 |
| | 54 444 | 4055·18 | ·00 | 5717·03 | ·00 | −·11 | −·12 | 87 | 4122·02 | ·00 | 5108·36 | ·00 | −·05 | +·08 |
| | 53 440 | 4209·80 | ·00 | 3778·44 | ·00 | −·17 | +·14 | 88 | 4453·99 | ·00 | 4225·23 | ·00 | −·17 | +·12 |
| | 55 484 | 4377·56 | ·00 | 7650·82 | ·00 | +·11* | −·17* | 90 | 5006·19 | ·00 | 2880·97 | ·00 | −·07 | +·04 |
| | 54 448 | 4397·04 | ·00 | 5317·05 | ·00 | −·05 | −·08 | 92 | 5622·40 | ·00 | 3917·06 | ·00 | +·02 | +·25 |
| | 54 452 | 4849·27 | ·00 | 4009·56 | ·00 | −·18 | +·15 | 93 | 5683·65 | ·00 | 4558·62 | ·00 | +·19 | +·12 |
| | 54 453 | 5012·14 | ·00 | 7135·02 | ·00 | −·26 | −·34 | 94 | 6533·23 | ·00 | 4986·53 | ·00 | +·01† | +·12† |
| | 54 457 | 5462·25 | ·00 | 4635·46 | ·00 | −·11 | +·09 | | | | | | | |
| | 53 451 | 5962·23 | ·00 | 2410·44 | ·00 | −·16 | +·15 | | | | | Mean | +·01 | +·13 |
| | 53 453 | 6773·23 | ·00 | 3491·46 | ·00 | −·11 | +·27 | | | | | | | |
| | 53 459 | 7712·97 | ·00 | 2537·61 | ·00 | +·18* | −·09* | | | | | | | |
| | Eros | 4215·48 | ·00 | 4234·23 | ·00 | ... | ... | | | | | | | |
| November 10 5223 | 54 424 | 1361·59 | ·00 | 6219·66 | ·00 | +·04 | +·28 | 77 | 2013·45 | ·00 | 4619·64 | ·00 | −·02† | +·32† |
| | 53 428 | 1511·35 | ·00 | 3473·42 | ·00 | −·07 | +·32 | 80 | 2789·77 | ·00 | 2999·28 | ·00 | +·04† | +·22† |
| | 54 429 | 1868·98 | ·00 | 6977·96 | ·00 | −·08* | +·15* | 81 | 2978·21 | ·00 | 4947·79 | ·00 | −·02 | +·09 |
| | 53 437 | 3488·89 | ·00 | 1335·26 | ·00 | +·34 | −·14 | 86 | 3850·76 | ·00 | 3110·11 | ·00 | −·13 | +·07 |
| | 54 444 | 4071·39 | ·00 | 5715·10 | ·00 | −·07 | −·09 | 87 | 4138·43 | ·00 | 5106·48 | ·00 | −·03 | +·11 |
| | 53 440 | 4226·49 | ·00 | 3776·78 | ·00 | −·08 | −·05 | 88 | 4470·59 | ·00 | 4223·67 | ·00 | −·09 | −·09 |
| | 55 484 | 4393·48 | ·00 | 7648·84 | ·00 | −·09* | ·00* | 90 | 5023·08 | ·00 | 2879·42 | ·00 | +·07 | −·03 |
| | 54 448 | 4413·45 | ·00 | 5315·19 | ·00 | −·11 | −·02 | 92 | 5638·96 | ·00 | 3915·69 | ·00 | +·21 | +·15 |
| | 54 452 | 4865·98 | ·00 | 4008·02 | ·00 | −·17 | +·01 | 93 | 5700·27 | ·00 | 4557·39 | ·00 | +·13 | −·09 |
| | 54 453 | 5027·89 | ·00 | 7133·12 | ·00 | −·15 | −·08 | 94 | 6549·52 | ·00 | 4985·35 | ·00 | +·17† | +·09† |
| | 54 457 | 5478·62 | ·00 | 4633·93 | ·00 | +·06 | +·11 | | | | | | | |
| | 53 451 | 5979·38 | ·00 | 2409·14 | ·00 | −·18 | +·07 | | | | | Mean | +·02 | +·03 |
| | 53 453 | 6789·99 | ·00 | 3490·39 | ·00 | −·03 | +·17 | | | | | | | |
| | 53 459 | 7729·43 | ·00 | 2537·09 | ·00 | +·80* | −·48* | | | | | | | |
| | Eros | 4216·11 | ·00 | 4231·28 | ·00 | ... | ... | | | | | | | |
| November 11 5226 | 54 413 | 806·21 | +·02 | 3962·90 | ·00 | −·17 | −·13 | 72 | 2450·27 | +·01 | 4675·28 | ·00 | +·01† | −·03† |
| | 53 419 | 867·34 | +·02 | 2017·64 | ·00 | −·35* | −·15* | 74 | 2774·04 | +·01 | 3283·87 | ·00 | +·11† | −·04† |
| | 54 424 | 2419·09 | +·01 | 6253·63 | −·01 | +·19 | +·05 | 77 | 3078·73 | ·00 | 4657·29 | ·00 | +·16 | −·09 |
| | 53 428 | 2582·76 | +·01 | 3508·47 | ·00 | −·09 | +·06 | 80 | 3863·14 | ·00 | 3040·73 | ·00 | +·07 | +·10 |
| | 54 429 | 2922·68 | +·01 | 7014·12 | −·01 | −·07 | +·27 | 81 | 4041·54 | ·00 | 4990·01 | ·00 | +·26 | +·03 |
| | 53 437 | 4570·42 | +·01 | 1380·27 | −·01 | +·57 | −·17 | 86 | 4923·41 | ·00 | 3156·87 | ·00 | −·05 | +·02 |

* Not used in forming the finally adopted values of *c.* and *f.* (Table IV.), the star being more than 55′ from the centre of the plate.

† Not used in forming the Mean Correction for Comparison Stars (Table X.), the star being more than 25′ from the centre of the plate.

The number given in column 9 is the reference number assigned to the comparison stars in Tables VIII. and IX.

TABLE II.—Measured Co-ordinates and Residuals, Astrographic 13-inch Refractor.

| Date and Plate No. | Reference Stars. | | | | | | | Comparison Stars. | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | No. in B.D. | x. | Refraction Correction applied. | y. | Refraction Correction applied. | Residuals. C—O. x. | Residuals. C—O. y. | No. | x. | Refraction Correction applied. | y. | Refraction Correction. applied. | Residuals. x. | Residuals. y. |
| | ° | " | " | " | " | " | " | | " | " | " | " | " | " |
| 1900. November 11 5226—*contd.* | 54 444 | 5130·95 | ·00 | 5762·68 | ·00 | +·05 | +·07 | 87 | 5200·99 | ·00 | 5154·79 | ·00 | +·06 | −·09 |
| | 53 440 | 5295·51 | ·00 | 3825·27 | ·00 | +·23 | +·05 | 88 | 5537·52 | ·00 | 4273·33 | ·00 | +·03 | +·08 |
| | 54 448 | 5474·74 | ·00 | 5364·79 | ·00 | +·25 | −·13 | | | | | | | |
| | 54 452 | 5934·03 | +·01 | 4060·01 | ·00 | −·05 | −·13 | | | | | Mean | +·09 | +·01 |
| | 54 453 | 6080·28 | +·01 | 7185·71 | −·01 | −·08* | ·00* | | | | | | | |
| | 54 457 | 6543·68 | +·01 | 4688·82 | ·00 | −·01 | +·22 | | | | | | | |
| | 53 451 | 7055·64 | +·02 | 2466·44 | −·01 | −·25 | +·31 | | | | | | | |
| | Eros | 4438·32 | ·00 | 4191·94 | ·00 | ... | ... | | | | | | | |
| November 11 5227 | 54 413 | 809·44 | +·02 | 3961·76 | ·00 | −·20 | −·10 | 72 | 2451·46 | +·01 | 4678·89 | ·00 | ·00† | −·11† |
| | 53 419 | 876·16 | +·02 | 2016·93 | ·00 | −·45* | −·41* | 74 | 2779·37 | +·01 | 3288·33 | ·00 | −·07† | −·07† |
| | 54 424 | 2415·65 | +·01 | 6257·00 | −·01 | +·34 | +·15 | 77 | 3080·12 | ·00 | 4662·62 | ·00 | +·02 | −·11 |
| | 53 428 | 2587·25 | +·01 | 3512·35 | ·00 | −·05 | +·06 | 80 | 3868·97 | ·00 | 3048·47 | ·00 | +·11 | −·14 |
| | 54 429 | 2917·19 | +·01 | 7018·91 | −·01 | −·01 | +·37 | 81 | 4042·02 | ·00 | 4998·15 | ·00 | +·11 | −·07 |
| | 53 437 | 4581·11 | +·01 | 1389·86 | −·01 | +·50 | −·27 | 86 | 4928·87 | ·00 | 3167·56 | ·00 | +·06 | −·18 |
| | 54 444 | 5129·20 | ·00 | 5773·77 | ·00 | −·03 | +·09 | 87 | 5200·90 | ·00 | 5166·01 | ·00 | +·05 | ·00 |
| | 53 440 | 5299·42 | ·00 | 3837·03 | ·00 | +·01 | −·14 | 88 | 5539·86 | ·00 | 4285·63 | ·00 | +·09 | +·03 |
| | 54 448 | 5474·11 | ·00 | 5376·88 | ·00 | +·20 | −·13 | | | | | | | |
| | 54 452 | 5936·97 | +·01 | 4073·25 | ·00 | +·03 | −·01 | | | | | Mean | +·07 | −·08 |
| | 54 453 | 6074·53 | +·01 | 7199·27 | ·00 | −·19* | +·25* | | | | | | | |
| | 54 457 | 6544·98 | +·01 | 4703·97 | ·00 | −·06 | +·16 | | | | | | | |
| | 53 451 | 7062·80 | +·02 | 2483·06 | −·01 | +·17 | +·19 | | | | | | | |
| | Eros | 4423·24 | ·00 | 4199·94 | ·00 | ... | ... | | | | | | | |
| November 11 5228 | 54 413 | 810·55 | +·02 | 3963·16 | ·00 | −·44 | −·21 | 72 | 2452·47 | ·00 | 4679·71 | ·00 | +·01† | +·03† |
| | 53 419 | 876·71 | +·02 | 2018·25 | ·00 | −·43* | −·46* | 74 | 2780·00 | ·00 | 3289·33 | ·00 | +·11† | −·18† |
| | 54 424 | 2417·05 | +·01 | 6257·97 | ·00 | +·21 | +·19 | 77 | 3081·13 | ·00 | 4663·41 | ·00 | +·03 | −·05 |
| | 53 428 | 2588·01 | +·01 | 3513·39 | ·00 | +·02 | −·01 | 80 | 3869·60 | ·00 | 3049·04 | ·00 | +·27 | −·04 |
| | 54 429 | 2918·89 | +·01 | 7019·82 | −·01 | −·30 | +·38 | 81 | 4043·01 | ·00 | 4998·70 | ·00 | +·22 | +·04 |
| | 53 437 | 4581·50 | +·01 | 1390·37 | ·00 | +·64 | −·22 | 86 | 4929·71 | ·00 | 3167·97 | ·00 | +·03 | −·11 |
| | 54 444 | 5130·34 | ·00 | 5774·19 | ·00 | +·07 | +·17 | 87 | 5202·16 | ·00 | 5166·35 | ·00 | −·07 | +·14 |
| | 53 440 | 5300·28 | ·00 | 3837·18 | ·00 | +·10 | +·14 | 88 | 5540·97 | ·00 | 4285·98 | ·00 | −·01 | +·06 |
| | 54 448 | 5475·20 | ·00 | 5377·32 | ·00 | +·30 | −·15 | | | | | | | |
| | 54 452 | 5938·00 | ·00 | 4073·60 | ·00 | −·01 | −·04 | | | | | Mean | +·08 | +·01 |
| | 54 453 | 6076·09 | +·01 | 7199·85 | ·00 | −·24* | −·01* | | | | | | | |
| | 54 457 | 6545·78 | +·01 | 4704·15 | ·00 | +·25 | +·18 | | | | | | | |
| | 53 451 | 7063·67 | +·02 | 2482·99 | −·01 | +·05 | +·36 | | | | | | | |
| | Eros | 4406·20 | ·00 | 4199·39 | ·00 | ... | ... | | | | | | | |
| November 11 5229 | 54 413 | 803·55 | ·00 | 4017·12 | ·00 | −·07 | +·03 | 72 | 2446·00 | ·00 | 4733·45 | ·00 | +·13† | +·15† |
| | 53 419 | 869·44 | ·00 | 2071·97 | ·00 | −·09* | ·00* | 74 | 2773·50 | ·00 | 3342·61 | ·00 | +·05† | +·33† |
| | 54 424 | 2410·68 | ·00 | 6312·08 | ·00 | +·45 | −·07 | 77 | 3074·92 | ·00 | 4716·93 | ·00 | −·06 | +·16 |
| | 53 428 | 2581·43 | ·00 | 3566·69 | ·00 | +·04 | +·51 | 80 | 3863·40 | ·00 | 3102·43 | ·00 | −·03 | +·15 |
| | 54 429 | 2912·65 | ·00 | 7074·07 | ·00 | −·03 | −·11 | 81 | 4037·23 | ·00 | 5052·18 | ·00 | −·17 | +·08 |
| | 53 437 | 4574·98 | ·00 | 1443·58 | ·00 | +·43 | −·04 | 86 | 4923·32 | ·00 | 3221·09 | ·00 | +·03 | +·12 |
| | 54 444 | 5124·48 | ·00 | 5827·77 | ·00 | −·05 | −·13 | 87 | 5196·12 | ·00 | 5219·63 | ·00 | −·07 | +·11 |
| | 53 440 | 5294·14 | ·00 | 3890·43 | ·00 | −·06 | +·14 | 88 | 5534·67 | ·00 | 4339·11 | ·00 | +·13 | +·14 |
| | 54 448 | 5469·43 | ·00 | 5430·43 | ·00 | +·03 | −·05 | | | | | | | |
| | 54 452 | 5932·01 | ·00 | 4126·68 | ·00 | −·21 | −·01 | | | | | Mean | −·03 | +·13 |

* Not used in forming the finally adopted values of *c.* and *f.* (Table IV.), the star being more than 55′ from the centre of the plate.
† Not used in forming the Mean Correction for Comparison Stars (Table X.), the star being more than 25′ from the centre of the plate.
The number given in column 9 is the reference number assigned to the comparison stars in Tables VIII. and IX.

TABLE II.—Measured Co-ordinates and Residuals, Astrographic 13-inch Refractor.

| Date and Plate No. | Reference Stars. | | | | | | | Comparison Stars | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | No. in B.D. | x. | Refraction Correction applied. | y. | Refraction Correction applied. | Residuals C—O. x. | Residuals C—O. y. | No. | x. | Refraction Correction applied. | y. | Refraction Correction applied. | Residuals. x. | Residuals. y. |
| 1900. | ° | ″ | ″ | ″ | ″ | ″ | ″ | | ″ | ″ | ″ | ″ | ″ | ″ |
| November 11<br>5229—*contd.* | 54 453 | 6070·41 | ·00 | 7253·24 | ·00 | −·25* | −·31* | | | | | | | |
| | 54 457 | 6540·16 | ·00 | 4757·12 | ·00 | −·18 | +·20 | | | | | | | |
| | 53 451 | 7057·15 | ·00 | 2536·16 | ·00 | +·21 | +·06 | | | | | | | |
| | Eros | 4256·22 | ·00 | 4240·38 | ·00 | ... | ... | | | | | | | |
| November 13<br>5230 | 54 393 | 1173·02 | +·03 | 5047·54 | −·01 | +·02 | −·08 | 67 | 3177·37 | ·00 | 4675·71 | ·00 | +·04 | +·05 |
| | 53 416 | 2829·10 | +·01 | 1312·79 | −·01 | −·11 | +·01 | 70 | 3645·49 | ·00 | 3967·77 | ·00 | +·18 | ·00 |
| | 54 413 | 2909·62 | ·00 | 4326·04 | ·00 | −·11 | +·08 | 71 | 4321·85 | ·00 | 3004·05 | ·00 | +·05 | −·05 |
| | 53 419 | 3002·96 | ·00 | 2382·39 | ·00 | −·07 | +·02 | 72 | 4541·10 | ·00 | 5066·04 | ·00 | +·25 | −·03 |
| | 54 424 | 4483·89 | +·01 | 6643·49 | −·01 | +·10 | +·18 | 74 | 4888·32 | ·00 | 3680·40 | ·00 | +·04 | −·14 |
| | 53 428 | 4693·22 | ·00 | 3901·56 | ·00 | −·07 | +·14 | 77 | 5170·18 | ·00 | 5058·57 | ·00 | −·05 | −·03 |
| | 54 429 | 4974·68 | +·01 | 7412·76 | −·01 | −·15* | +·04* | 80 | 5981·32 | +·01 | 3455·61 | ·00 | −·01† | −·10† |
| | 53 437 | 6716·27 | +·03 | 1807·07 | −·02 | +·39* | −·29* | 81 | 6127·69 | +·01 | 5407·58 | ·00 | −·33† | −·06† |
| | 53 440 | 7400·57 | +·01 | 4263·90 | −·01 | +·11 | ·00 | | | | | | | |
| | | | | | | | | | | | | Mean | +·09 | +·03 |
| | Eros | 4473·88 | ·00 | 4229·70 | ·00 | ... | ... | | | | | | | |
| November 13<br>5231 | 54 393 | 1171·86 | +·02 | 5046·79 | −·01 | +·02 | −·01 | 67 | 3176·50 | ·00 | 4675·39 | ·00 | −·15 | −·20 |
| | 53 416 | 2828·46 | +·01 | 1312·08 | ·00 | −·12 | +·06 | 70 | 3644·63 | ·00 | 3967·36 | ·00 | +·07 | −·13 |
| | 54 413 | 2908·44 | ·00 | 4325·54 | ·00 | +·06 | −·01 | 71 | 4320·95 | ·00 | 3003·51 | ·00 | +·11 | −·05 |
| | 53 419 | 3002·23 | ·00 | 2381·87 | ·00 | −·12 | −·11 | 72 | 4540·12 | ·00 | 5065·49 | ·00 | +·16 | +·05 |
| | 54 424 | 4482·68 | +·01 | 6643·06 | ·00 | +·06 | +·17 | 74 | 4887·28 | ·00 | 3679·78 | ·00 | +·19 | −·01 |
| | 53 428 | 4692·35 | ·00 | 3901·13 | ·00 | −·10 | +·08 | 77 | 5169·12 | ·00 | 5058·08 | ·00 | −·05 | +·02 |
| | 54 429 | 4973·48 | +·01 | 7412·25 | −·01 | −·28* | +·15* | 80 | 5980·55 | +·01 | 3455·05 | ·00 | −·07† | +·04† |
| | 53 437 | 6715·60 | +·03 | 1806·71 | −·01 | +·47* | −·33* | 81 | 6126·38 | +·01 | 5407·26 | ·00 | −·08† | −·10† |
| | 53 440 | 7399·65 | +·02 | 4263·45 | −·01 | +·15 | +·13 | | | | | | | |
| | | | | | | | | | | | | Mean | +·06 | −·05 |
| | Eros | 4452·89 | ·00 | 4226·05 | ·00 | ... | ... | | | | | | | |
| November 13<br>5232 | 54 393 | 1171·60 | +·01 | 5047·24 | −·01 | +·18 | −·24 | 67 | 3176·20 | ·00 | 4674·54 | ·00 | −·05 | −·07 |
| | 53 416 | 2826·82 | +·01 | 1311·52 | ·00 | −·22 | +·02 | 70 | 3644·14 | ·00 | 3966·37 | ·00 | +·05 | −·09 |
| | 54 413 | 2908·16 | ·00 | 4325·00 | ·00 | −·04 | −·08 | 71 | 4320·09 | ·00 | 3002·24 | ·00 | +·07 | −·06 |
| | 53 419 | 3001·04 | ·00 | 2381·00 | ·00 | −·18 | −·02 | 72 | 4540·37 | ·00 | 5064·23 | ·00 | −·07 | −·06 |
| | 54 424 | 4483·31 | +·01 | 6641·71 | ·00 | +·15 | +·16 | 74 | 4886·88 | ·00 | 3678·26 | ·00 | −·01 | −·03 |
| | 53 428 | 4691·84 | ·00 | 3899·50 | ·00 | −·11 | +·22 | 77 | 5169·25 | ·00 | 5056·48 | ·00 | −·14 | −·05 |
| | 54 429 | 4974·38 | +·01 | 7410·72 | −·01 | −·10* | +·09* | 80 | 5979·97 | +·01 | 3453·11 | ·00 | −·15† | −·10† |
| | 53 437 | 6714·33 | +·02 | 1804·13 | −·01 | +·34* | −·23* | 81 | 6126·69 | +·01 | 5405·09 | ·00 | −·17† | −·07† |
| | 53 440 | 7399·45 | +·02 | 4260·67 | ·00 | +·08 | +·15 | | | | | | | |
| | | | | | | | | | | | | Mean | −·03 | −·06 |
| | Eros | 4432·72 | ·00 | 4221·37 | ·00 | ... | ... | | | | | | | |
| November 13<br>5234 | 54 393 | 1179·15 | −·03 | 5094·87 | −·01 | −·26 | +·14 | 67 | 3182·98 | ·00 | 4722·16 | ·00 | +·10 | +·10 |
| | 53 416 | 2834·79 | −·03 | 1359·76 | ·00 | −·02 | +·08 | 70 | 3651·37 | ·00 | 4013·95 | ·00 | −·07 | +·15 |
| | 54 413 | 2915·18 | −·01 | 4372·86 | ·00 | +·04 | −·05 | 71 | 4327·44 | ·00 | 3050·08 | ·00 | +·06 | −·03 |
| | 53 419 | 3008·78 | −·02 | 2429·18 | −·01 | −·15 | +·04 | 72 | 4547·07 | ·00 | 5111·69 | ·00 | −·19 | +·05 |
| | 54 424 | 4489·35 | −·02 | 6689·19 | −·02 | +·17 | +·09 | 74 | 4894·02 | ·00 | 3725·76 | ·00 | −·13 | +·18 |
| | 53 428 | 4698·72 | ·00 | 3947·21 | ·00 | ·00 | +·25 | 77 | 5175·66 | −·01 | 5103·95 | ·00 | −·05 | −·04 |
| | 54 429 | 4980·25 | −·03 | 7458·05 | −·03 | −·26* | +·01* | 80 | 5986·74 | −·01 | 3500·50 | −·01 | +·02† | +·12† |
| | 53 437 | 6721·64 | −·02 | 1851·99 | −·01 | +·44* | −·32* | 81 | 6132·71 | −·03 | 5452·37 | −·02 | +·04† | −·01† |
| | 53 440 | 7405·87 | −·04 | 4308·29 | −·02 | +·12 | −·12 | | | | | | | |
| | | | | | | | | | | | | Mean | −·05 | +·07 |
| | Eros | 3988·97 | ·00 | 4155·57 | ·00 | ... | ... | | | | | | | |

* Not used in forming the finally adopted values of *c.* and *f.* (Table IV.), the star being more than 55′ from the centre of the plate.

† Not used in forming the Mean Correction for Comparison Stars (Table X.), the star being more than 25′ from the centre of the plate.

The number given in column 9 is the reference number assigned to the comparison stars in Tables VIII. and IX.

TABLE II.—Measured Co-ordinates and Residuals, Astrographic 13-inch Refractor.

| Date and Plate No. | Reference Stars. | | | | | | | Comparison Stars. | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | No. in B.D. | x. | Refraction Correction applied. | y. | Refraction Correction applied. | Residuals C—O. | | No. | x. | Refraction Correction applied. | y. | Refraction Correction applied. | Residuals | |
| | | | | | | x. | y. | | | | | | x. | y |
| 1900. | • | ″ | ″ | ″ | ″ | ″ | ″ | | ″ | ″ | ″ | ″ | ″ | ″ |
| November 13 | 54 393 | 1179·58 | −·03 | 5095·97 | −·01 | −·25 | ·00 | 67 | 3183·31 | ·00 | 4722·68 | ·00 | +·01 | −·01 |
| 5235 | 53 416 | 2835·12 | −·06 | 1360·88 | −·06 | −·15 | +·05 | 70 | 3651·45 | ·00 | 4014·55 | ·00 | +·04 | −·07 |
| | 54 413 | 2915·25 | −·01 | 4373·35 | ·00 | +·25 | +·01 | 71 | 4327·69 | ·00 | 3050·41 | ·00 | −·10 | −·01 |
| | 53 419 | 3008·90 | −·03 | 2429·93 | −·03 | −·06 | +·13 | 72 | 4547·24 | ·00 | 5111·69 | ·00 | −·21 | −·01 |
| | 54 424 | 4489·62 | −·02 | 6688·97 | −·03 | +·12 | ·00 | 74 | 4894·14 | ·00 | 3725·98 | ·00 | −·18 | +·02 |
| | 53 428 | 4698·71 | ·00 | 3947·37 | ·00 | +·13 | +·18 | 77 | 5175·87 | −·01 | 5103·70 | −·01 | −·17 | −·03 |
| | 54 429 | 4980·52 | −·05 | 7457·47 | −·07 | −·32* | ·00* | 80 | 5986·94 | −·01 | 3500·36 | −·01 | −·21† | +·04† |
| | 53 437 | 6721·66 | −·02 | 1851·86 | −·02 | +·32* | −·35* | 81 | 6132·91 | −·03 | 5451·82 | −·03 | −·14† | −·06† |
| | 53 440 | 7405·81 | −·05 | 4307·35 | −·03 | +·08 | +·04 | | | | | | | |
| | | | | | | | | | | | | Mean | −·10 | −·02 |
| | Eros | 3947·47 | ·00 | 4141·55 | ·00 | ... | ... | | | | | | | |
| November 13 | 54 393 | 1189·58 | −·03 | 5099·15 | −·02 | −·20 | −·07 | 67 | 3193·12 | ·00 | 4724·34 | ·00 | ·00 | +·01 |
| 5236 | 53 416 | 2842·94 | −·07 | 1363·16 | −·08 | −·11 | +·19 | 70 | 3660·75 | ·00 | 4015·91 | ·00 | +·11 | +·01 |
| | 54 413 | 2925·01 | −·01 | 4375·26 | −·01 | +·07 | +·03 | 71 | 4336·36 | ·00 | 3051·50 | −·01 | +·05 | −·03 |
| | 53 419 | 3017·20 | −·03 | 2432·04 | −·04 | +·12 | +·17 | 72 | 4557·03 | −·01 | 5112·37 | −·01 | −·02 | −·08 |
| | 54 424 | 4500·47 | −·03 | 6689·44 | −·05 | +·13 | −·03 | 74 | 4903·25 | ·00 | 3726·60 | ·00 | −·11 | −·04 |
| | 53 428 | 4708·22 | ·00 | 3948·04 | ·00 | −·10 | +·19 | 77 | 5185·54 | −·01 | 5104·04 | −·01 | +·11 | −·22 |
| | 54 429 | 4991·63 | −·07 | 7457·43 | −·09 | −·16* | +·01* | 80 | 5995·85 | −·01 | 3500·31 | −·01 | −·10† | −·14† |
| | 53 437 | 6729·60 | −·02 | 1851·37 | −·02 | +·41* | −·38* | 81 | 6142·96 | −·05 | 5451·26 | −·05 | −·06† | −·11† |
| | 53 440 | 7415·34 | −·06 | 4306·00 | −·05 | −·03 | +·02 | | | | | | | |
| | | | | | | | | | | | | Mean | +·02 | −·06 |
| | Eros | 3936·73 | ·00 | 4135·74 | ·00 | ... | .. | | | | | | | |
| November 14 | 54 388 | 1724·70 | −·01 | 6435·69 | ·00 | −·03 | −·10 | 60 | 2011·07 | −·01 | 4681·15 | ·00 | +·01† | +·26† |
| 5237 | 54 392 | 2118·53 | −·01 | 7114·38 | ·00 | −·08* | +·01* | 61 | 2416·84 | −·01 | 4700·41 | ·00 | +·15† | +·23† |
| | 54 393 | 2198·14 | −·01 | 5379·34 | ·00 | −·02 | −·12 | 62 | 3283·48 | ·00 | 4733·55 | ·00 | −·08 | +·15 |
| | 53 402 | 2321·28 | −·01 | 1569·47 | ·00 | −·05 | +·24 | 63 | 3288·02 | ·00 | 3484·77 | ·00 | +·20 | +·13 |
| | 53 416 | 3895·43 | −·01 | 1662·73 | ·00 | −·21 | +·02 | 64 | 3438·49 | ·00 | 2940·27 | ·00 | +·01 | +·03 |
| | 54 413 | 3942·38 | ·00 | 4676·69 | ·00 | +·07 | +·02 | 67 | 4206·70 | ·00 | 5029·21 | ·00 | −·19 | +·01 |
| | 53 419 | 4057·44 | ·00 | 2734·06 | ·00 | −·14 | +·04 | 70 | 4682·83 | ·00 | 4326·07 | ·00 | −·25 | +·23 |
| | 54 424 | 5491·34 | −·01 | 7011·27 | −·01 | +·09 | +·02 | 71 | 5369·60 | ·00 | 3369·71 | ·00 | −·13 | +·16 |
| | 53 428 | 5730·89 | ·00 | 4271·23 | ·00 | −·06 | +·33 | | | | | | | |
| | 53 437 | 7777·19 | −·02 | 2198·81 | ·00 | +·45* | −·38* | | | | | Mean | −·07 | +·12 |
| | Eros | 4107·83 | ·00 | 4201·67 | ·00 | ... | ... | | | | | | | |
| November 14 | 54 388 | 1739·35 | −·01 | 6431·72 | ·00 | −·17 | −·13 | 60 | 2016·95 | −·01 | 4675·93 | ·00 | −·04† | +·11† |
| 5238 | 54 392 | 2136·35 | −·01 | 7108·57 | ·00 | −·06* | −·14* | 61 | 2422·93 | −·01 | 4693·12 | ·00 | −·04† | +·14† |
| | 54 393 | 2207·38 | −·01 | 5372·80 | ·00 | +·04 | +·09 | 63 | 3288·10 | ·00 | 3473·24 | ·00 | ·00 | −·01 |
| | 53 402 | 2311·78 | −·02 | 1562·78 | −·01 | −·01 | +·05 | 62 | 3289·30 | ·00 | 4722·16 | ·00 | +·14 | −·12 |
| | 53 416 | 3886·24 | −·01 | 1648·08 | −·01 | −·10 | +·01 | 64 | 3435·39 | ·00 | 2927·86 | ·00 | +·29 | +·04 |
| | 54 413 | 3948·13 | ·00 | 4661·85 | ·00 | +·10 | −·10 | 67 | 4213·91 | ·00 | 5012·99 | ·00 | +·05 | −·01 |
| | 53 419 | 4053·67 | ·00 | 2718·54 | ·00 | −·17 | +·08 | 70 | 4686·70 | ·00 | 4307·55 | ·00 | −·14 | +·15 |
| | 54 424 | 5508·44 | −·02 | 6988·52 | −·01 | +·20 | +·09 | 71 | 5368·81 | ·00 | 3347·79 | ·00 | −·09 | +·11 |
| | 53 428 | 5734·43 | ·00 | 4247·50 | ·00 | +·11 | +·25 | | | | | | | |
| | 53 437 | 7770·88 | −·03 | 2164·69 | ·00 | +·17* | −·17* | | | | | Mean | +·04 | +·03 |
| | Eros | 4090·89 | ·00 | 4178·38 | ·00 | ... | ... | | | | | | | |
| November 15 | 53 395 | 2236·72 | +·01 | 2055·38 | ·00 | +·10 | −·11 | 60 | 2997·35 | ·00 | 4993·53 | ·00 | −·17 | −·18 |
| 5239 | 54 388 | 2706·56 | +·01 | 6746·63 | −·01 | −·14 | −·23 | 61 | 3403·09 | ·00 | 5013·90 | ·00 | −·10 | −·24 |

* Not used in forming the finally adopted values of *c.* and *f.* (Table IV.), the star being more than 55′ from the centre of the plate.
† Not used in forming the Mean Correction for Comparison Stars (Table X.), the star being more than 25′ from the centre of the plate.
The number given in column 9 is the reference number assigned to the comparison stars in Tables VIII. and IX.

### TABLE II.—Measured Co-ordinates and Residuals, Astrographic 13-inch Refractor.

| Date and Plate No. | Reference Stars. | | | | | | | Comparison Stars. | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | No. in B.D. | x. | Refraction Correction applied. | y. | Refraction Correction applied. | Residuals. C—O. | | No. | x. | Refraction Correction applied. | y. | Refraction Correction. applied. | Residuals. | |
| | | | | | | x. | y. | | | | | | x. | y. |
| 1900. | ° | ″ | ″ | ″ | ″ | ″ | ″ | | ″ | ″ | ″ | ″ | ″ | ″ |
| November 15 | 54 393 | 3182·36 | +·01 | 5691·69 | ·00 | +·12 | −·10 | 62 | 4269·23 | ·00 | 5049·11 | ·00 | +·03 | −·02 |
| 5239—*contd.* | 53 402 | 3315·40 | +·01 | 1882·23 | ·00 | −·19 | +·34 | 63 | 4277·25 | ·00 | 3800·52 | ·00 | −·02 | −·24 |
| | 53 416 | 4888·94 | +·01 | 1979·75 | −·01 | −·10 | ·00 | 64 | 4428·94 | ·00 | 3256·25 | ·00 | −·09 | −·14 |
| | 54 413 | 4928·51 | ·00 | 4993·94 | ·00 | ·00 | −·14 | 67 | 5191·62 | ·00 | 5347·18 | ·00 | ·00 | −·08 |
| | 53 419 | 5048·20 | ·00 | 3051·47 | ·00 | +·03 | +·03 | 70 | 5669·42 | ·00 | 4645·79 | ·00 | +·05† | −·35† |
| | 53 428 | 6717·75 | +·01 | 4593·28 | ·00 | +·21 | +·18 | | | | | | | |
| | | | | | | | | | | | | Mean | −·06 | −·15 |
| | Eros | 4439·20 | ·00 | 4277·04 | ·00 | ... | ... | | | | | | | |
| November 15 | 53 395 | 2238·18 | +·01 | 2054·41 | ·00 | +·33 | −·06 | 60 | 2998·69 | ·00 | 4992·77 | ·00 | +·05 | −·28 |
| 5240 | 54 388 | 2707·93 | +·01 | 6745·64 | ·00 | −·18 | −·08 | 61 | 3404·54 | ·00 | 5012·97 | ·00 | +·01 | −·13 |
| | 54 393 | 3183·33 | ·00 | 5690·77 | ·00 | (+·58) | −·01 | 62 | 4270·90 | ·00 | 5048·33 | ·00 | −·06 | −·02 |
| | 53 402 | 3317·09 | +·01 | 1881·64 | ·00 | −·16 | +·07 | 63 | 4278·92 | ·00 | 3799·54 | ·00 | −·01 | −·05 |
| | 53 416 | 4890·80 | +·01 | 1978·82 | ·00 | −·20 | +·16 | 64 | 4430·52 | ·00 | 3255·43 | ·00 | +·06 | −·12 |
| | 54 413 | 4929·98 | ·00 | 4993·21 | ·00 | +·05 | −·15 | 67 | 5193·07 | ·00 | 5346·52 | ·00 | +·12 | −·16 |
| | 53 419 | 5050·03 | ·00 | 3050·69 | ·00 | −·13 | +·05 | 70 | 5671·20 | ·00 | 4644·86 | ·00 | −·09† | −·15† |
| | 53 428 | 6719·79 | +·01 | 4592·76 | ·00 | −·26 | +·04 | | | | | | | |
| | | | | | | | | | .. | | | Mean | +·03 | −·13 |
| | Eros | 4425·55 | ·00 | 4271·75 | ·00 | ... | ... | | | | | | | |
| November 15 | 53 395 | 2235·79 | +·01 | 2054·56 | ·00 | +·08 | +·02 | 60 | 2996·15 | ·00 | 4992·77 | ·00 | +·02 | −·11 |
| 5241 | 54 388 | 2705·64 | +·01 | 6745·99 | −·01 | −·29 | −·24 | 61 | 3402·03 | ·00 | 5013·16 | ·00 | −·04 | −·19 |
| | 54 393 | 3181·42 | ·00 | 5690·90 | ·00 | +·04 | ·00 | 62 | 4268·30 | ·00 | 5048·58 | ·00 | ·00 | −·20 |
| | 53 402 | 3314·31 | ·00 | 1881·64 | ·00 | −·02 | +·21 | 63 | 4276·37 | ·00 | 3799·57 | ·00 | −·07 | −·01 |
| | 53 416 | 4888·01 | +·01 | 1978·99 | ·00 | −·01 | ·00 | 64 | 4427·95 | ·00 | 3255·37 | ·00 | ·00 | ·00 |
| | 54 413 | 4927·50 | ·00 | 4993·28 | ·00 | +·07 | −·21 | 67 | 5190·65 | ·00 | 5346·39 | ·00 | +·04 | −·03 |
| | 53 419 | 5047·42 | ·00 | 3050·75 | ·00 | −·06 | −·01 | 70 | 5668·55 | ·00 | 4644·72 | ·00 | +·02† | −·05† |
| | 53 428 | 6716·92 | +·01 | 4592·43 | ·00 | +·19 | +·24 | | | | | | | |
| | | | | | | | | | | | | Mean | −·01 | −·09 |
| | Eros | 4407·28 | ·00 | 4267·15 | ·00 | ... | ... | | | | | | | |
| November 15 | 53 395 | 2244·37 | ·00 | 2113·68 | ·00 | +·25 | +·06 | 60 | 3013·73 | ·00 | 5049·49 | ·00 | +·08 | ·00 |
| 5242 | 54 388 | 2728·28 | ·00 | 6803·79 | ·00 | −·05 | −·33 | 61 | 3419·70 | ·00 | 5068·44 | ·00 | +·02 | +·12 |
| | 54 393 | 3201·40 | ·00 | 5747·07 | ·00 | −·20 | +·10 | 62 | 4286·14 | ·00 | 5101·18 | ·00 | +·07 | +·14 |
| | 53 402 | 3322·51 | ·00 | 1937·62 | ·00 | +·10 | +·09 | 63 | 4290·51 | ·00 | 3852·37 | ·00 | −·05 | +·11 |
| | 53 416 | 4897·07 | ·00 | 2030·22 | ·00 | −·34 | −·17 | 64 | 4440·48 | ·00 | 3307·79 | ·00 | ·00 | +·05 |
| | 54 413 | 4945·11 | ·00 | 5044·04 | ·00 | +·27 | −·03 | 67 | 5209·67 | ·00 | 5396·41 | ·00 | −·11 | +·08 |
| | 53 419 | 5059·48 | ·00 | 3101·36 | ·00 | −·16 | −·05 | 70 | 5685·26 | ·00 | 4693·24 | ·00 | +·12† | +·11† |
| | 53 428 | 6733·70 | ·00 | 4637·83 | ·00 | +·13 | +·32 | | | | | | | |
| | | | | | | | | | | | | Mean | ·00 | +·08 |
| | Eros | 4307·77 | ·00 | 4283·57 | ·00 | ... | ... | | | | | | | |
| November 15 | 53 395 | 2252·46 | ·00 | 2096·94 | ·00 | +·25 | +·27 | 60 | 3013·88 | ·00 | 5034·87 | ·00 | +·05 | +·17 |
| 5243 | 54 388 | 2723·56 | ·00 | 6788·53 | ·00 | +·03 | −·27 | 61 | 3419·75 | ·00 | 5055·14 | ·00 | +·04 | +·09 |
| | 54 393 | 3199·59 | ·00 | 5733·35 | ·00 | −·15 | −·11 | 62 | 4286·26 | ·00 | 5090·25 | ·00 | −·06 | +·08 |
| | 53 402 | 3331·21 | ·00 | 1924·04 | ·00 | −·02 | +·06 | 63 | 4293·89 | ·00 | 3841·44 | ·00 | −·05 | +·05 |
| | 53 416 | 4905·29 | ·00 | 2020·87 | ·00 | −·23 | −·18 | 64 | 4445·62 | ·00 | 3297·14 | ·00 | −·28 | +·11 |
| | 54 413 | 4945·48 | ·00 | 5034·80 | ·00 | +·03 | ·00 | 67 | 5208·66 | ·00 | 5387·74 | ·00 | +·10 | +·27 |
| | 53 419 | 5064·82 | ·00 | 3092·52 | ·00 | −·08 | −·11 | 70 | 5686·55 | ·00 | 4686·02 | ·00 | −·07† | +·13† |
| | 53 428 | 6734·91 | ·00 | 4633·41 | ·00 | +·17 | +·37 | | | | | | | |
| | | | | | | | | | | | | Mean | −·03 | +·13 |
| | Eros | 4293·25 | ·00 | 4266·94 | ·00 | ... | ... | | | | | | | |

* Not used in forming the finally adopted values of *c.* and *f.* (Table IV.), the star being more than 55′ from the centre of the plate.

† Not used in forming the Mean Correction for Comparison Stars (Table X.), the star being more than 25′ from the centre of the plate.

The number given in column 9 is the reference number assigned to the comparison stars in Tables VIII. and IX.

## TABLE II.—Measured Co-ordinates and Residuals, Astrographic 13-inch Refractor.

| Date and Plate No. | Reference Stars. | | | | | | | Comparison Stars. | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | No. in B.D. | x. | Refraction Correction applied. | y. | Refraction Correction applied. | Residuals C—O. x. | Residuals C—O. y. | No. | x. | Refraction Correction applied. | y. | Refraction Correction applied. | Residuals. x. | Residuals. y. |
| 1900. | ° | " | " | " | " | " | " | | " | " | " | " | " | " |
| November 18 | 53 375 | 2032·09 | ·00 | 3625·03 | ·00 | −·30 | +·02 | 49 | 3367·51 | ·00 | 3878·99 | ·00 | +·05 | −·06 |
| 5248 | 54 368 | 2272·28 | ·00 | 7002·20 | ·00 | −·30 | +·02 | 51 | 3544·99 | ·00 | 4967·78 | ·00 | −·14 | +·08 |
| | 52 433 | 3254·49 | ·00 | 2390·20 | ·00 | +·18 | +·28 | 53 | 4063·50 | ·00 | 3177·11 | ·00 | +·05 | −·01 |
| | 53 388 | 4264·14 | ·00 | 3409·60 | ·00 | +·20 | +·07 | 54 | 4299·33 | ·00 | 3981·91 | ·00 | −·14 | +·05 |
| | 52 441 | 4423·65 | ·00 | 1101·64 | ·00 | −·22 | −·32 | 55 | 4521·68 | ·00 | 4908·49 | ·00 | −·06 | +·07 |
| | 54 383 | 4828·25 | ·00 | 7926·68 | ·00 | +·16* | −·68* | 59 | 5438·11 | ·00 | 4421·65 | ·00 | −·09 | +·11 |
| | 53 395 | 5120·59 | ·00 | 3506·74 | ·00 | +·21 | +·21 | | | | | | | |
| | 53 398 | 5568·42 | ·00 | 2893·61 | ·00 | −·04 | +·18 | | | | | Mean | −·06 | +·04 |
| | 54 393 | 5999·18 | ·00 | 7160·35 | ·00 | +·09 | −·18 | | | | | | | |
| | 53 402 | 6202·27 | ·00 | 3353·61 | ·00 | ·00 | +·36 | | | | | | | |
| | Eros | 4290·31 | ·00 | 4281·44 | ·00 | ... | ... | | | | | | | |
| November 18 | 53 375 | 2038·03 | ·00 | 3621·16 | ·00 | −·44 | +·08 | 49 | 3373·40 | ·00 | 3875·34 | ·00 | −·10 | +·11 |
| 5249 | 54 368 | 2277·39 | ·00 | 6998·34 | ·00 | −·45 | +·13 | 51 | 3550·21 | ·00 | 4964·47 | ·00 | +·12 | −·05 |
| | 52 433 | 3260·63 | ·00 | 2386·77 | ·00 | +·13 | +·19 | 53 | 4069·48 | ·00 | 3173·73 | ·00 | ·00 | +·06 |
| | 53 388 | 4269·90 | ·00 | 3406·31 | ·00 | +·29 | +·11 | 54 | 4304·90 | ·00 | 3978·79 | ·00 | ·00 | −·08 |
| | 52 441 | 4430·16 | ·00 | 1098·49 | ·00 | −·30 | −·39 | 55 | 4527·15 | ·00 | 4905·34 | ·00 | −·04 | +·04 |
| | 54 383 | 4832·85 | ·00 | 7923·52 | ·00 | +·27* | −·63* | 59 | 5443·63 | ·00 | 4418·86 | ·00 | −·01 | −·06 |
| | 53 395 | 5126·42 | ·00 | 3503·78 | ·00 | +·20 | +·14 | | | | | | | |
| | 53 398 | 5574·46 | ·00 | 2890·69 | ·00 | −·10 | +·17 | | | | | Mean | −·01 | ·00 |
| | 54 393 | 6003·92 | ·00 | 7157·47 | ·00 | +·25 | −·11 | | | | | | | |
| | 53 402 | 6207·95 | ·00 | 3350·89 | ·00 | +·19 | +·31 | | | | | | | |
| | Eros | 4275·62 | ·00 | 4267·11 | ·00 | ... | ... | | | | | | | |
| November 18 | 53 375 | 2037·83 | ·00 | 3622·05 | ·00 | −·23 | +·13 | 49 | 3373·18 | ·00 | 3876·81 | ·00 | +·05 | −·04 |
| 5250 | 54 368 | 2276·32 | ·00 | 6999·27 | ·00 | −·31 | +·21 | 51 | 3549·93 | ·00 | 4965·82 | ·00 | +·02 | −·03 |
| | 52 433 | 3261·21 | ·00 | 2388·12 | ·00 | −·08 | +·12 | 53 | 4069·64 | ·00 | 3175·36 | ·00 | −·04 | −·05 |
| | 53 388 | 4270·02 | ·00 | 3408·16 | ·00 | +·25 | −·19 | 54 | 4304·66 | ·00 | 3980·27 | ·00 | +·14 | +·02 |
| | 52 441 | 4430·86 | ·00 | 1099·88 | ·00 | −·27 | −·18 | 55 | 4526·66 | ·00 | 4907·13 | ·00 | +·09 | −·12 |
| | 54 383 | 4831·80 | ·00 | 7925·08 | ·00 | +·13* | −·47* | 59 | 5443·28 | ·00 | 4420·75 | ·00 | +·12 | −·06 |
| | 53 395 | 5126·36 | ·00 | 3505·55 | ·00 | +·31 | +·16 | | | | | | | |
| | 53 398 | 5574·58 | ·00 | 2892·73 | ·00 | ·00 | +·05 | | | | | Mean | +·06 | −·05 |
| | 54 393 | 6003·24 | ·00 | 7159·36 | ·00 | −·03 | +·04 | | | | | | | |
| | 53 402 | 6207·97 | ·00 | 3353·14 | ·00 | +·26 | +·16 | | | | | | | |
| | Eros | 4257·21 | ·00 | 4258·44 | ·00 | ... | ... | | | | | | | |
| November 22 | 52 387 | 1623·64 | +·01 | 3249·97 | ·00 | +·46 | −·12 | 30 | 3353·52 | ·00 | 4438·03 | ·00 | −·08 | −·13 |
| 5253 | 52 393 | 2655·18 | ·00 | 3715·17 | ·00 | +·06 | −·38 | 32 | 4156·24 | ·00 | 4267·91 | ·00 | +·16 | −·19 |
| | 53 355 | 3002·07 | +·01 | 6942·58 | −·01 | +·14 | +·03 | 37 | 4389·21 | .00 | 3763·39 | ·00 | +·12 | −·05 |
| | 52 399 | 3019·80 | ·00 | 2548·69 | ·00 | −·09 | +·07 | 38 | 4439·29 | ·00 | 4656·97 | ·00 | −·01 | +·04 |
| | 51 360 | 3200·04 | +·01 | 1580·30 | ·00 | −·06 | −·01 | 43 | 5184·97 | ·00 | 3905·62 | ·00 | +·05 | ·00 |
| | 53 363 | 3405·35 | ·00 | 5978·54 | ·00 | −·17 | +·52 | 44 | 5211·72 | ·00 | 4878·48 | ·00 | −·14 | −·21 |
| | 52 406 | 4216·74 | ·00 | 4206·05 | ·00 | +·28 | +·18 | | | | | | | |
| | 52 420 | 5251·30 | +·01 | 2442·59 | ·00 | −·13 | −·12 | | | | | Mean | +·02 | −·09 |
| | 53 375 | 5322·49 | ·00 | 6273·28 | ·00 | −·33 | −·22 | | | | | | | |
| | 52 424 | 5626·48 | ·00 | 3538·46 | ·00 | −·13 | +·05 | | | | | | | |
| | 52 433 | 6565·60 | +·01 | 5059·59 | ·00 | +·01 | +·01 | | | | | | | |
| | Eros | 4375·24 | ·00 | 4360·19 | ·00 | ... | ... | | | | | | | |

* Not used in forming the finally adopted values of *c.* and *f.* (Table IV.), the star being more than 55′ from the centre of the plate.
† Not used in forming the Mean Correction for Comparison Stars (Table X.), the star being more than 25′ from the centre of the plate.
The number given in column 9 is the reference number assigned to the comparison stars in Tables VIII. and IX.

TABLE II.—Measured Co-ordinates and Residuals, Astrographic 13-inch Refractor.

| Date and Plate No. | Reference Stars. | | | | | | | Comparison Stars. | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | No. in B.D. | x. | Refraction Correction applied. | y. | Refraction Correction applied. | Residuals C—O. | | No. | x. | Refraction Correction applied. | y. | Refraction Correction applied. | Residuals. | |
| | | | | | | x. | y. | | | | | | x. | y. |
| 1900. | ° | " | " | " | " | " | " | | " | " | " | " | " | " |
| November 22 | 52 387 | 1609·01 | +·01 | 3253·16 | ·00 | +·40 | +·03 | 30 | 3333·26 | ·00 | 4449·43 | ·00 | −·06 | −·19 |
| 5254 | 52 393 | 2638·51 | ·00 | 3723·31 | ·00 | −·12 | −·43 | 32 | 4136·93 | ·00 | 4282·74 | ·00 | +·06 | +·01 |
| | 53 355 | 2970·10 | +·01 | 6952·04 | −·01 | −·01 | +·32 | 37 | 4372·09 | ·00 | 3779·57 | ·00 | +·22 | −·13 |
| | 52 399 | 3008·57 | ·00 | 2558·86 | ·00 | −·18 | −·34 | 38 | 4417·95 | ·00 | 4673·46 | ·00 | +·08 | −·10 |
| | 51 360 | 3193·21 | +·01 | 1591·04 | ·00 | +·04 | −·18 | 43 | 5167·30 | ·00 | 3925·42 | ·00 | +·06 | −·03 |
| | 53 363 | 3377·71 | ·00 | 5989·84 | ·00 | −·08 | +·80 | 44 | 5189·28 | ·00 | 4898·22 | ·00 | +·02 | −·04 |
| | 52 406 | 4197·71 | ·00 | 4221·30 | ·00 | +·19 | +·23 | | | | | | | |
| | 52 420 | 5240·46 | ·00 | 2462·65 | ·00 | −·03 | −·10 | | | | | Mean | +·06 | −·08 |
| | 53 375 | 5293·59 | ·00 | 6293·52 | ·00 | −·30 | −·02 | | | | | | | |
| | 52 424 | 5610·50 | ·00 | 3560·36 | ·00 | −·07 | −·05 | | | | | | | |
| | 52 433 | 6542·42 | +·01 | 5086·01 | ·00 | +·11 | −·24 | | | | | | | |
| | Eros | 4341·87 | ·00 | 4364·34 | ·00 | ... | ... | | | | | | | |
| November 22 | 52 387 | 1274·37 | −·02 | 3425·72 | −·01 | +·60 | +·15 | 30 | 3001·54 | ·00 | 4617·92 | ·00 | −·15 | +·10 |
| 5256 | 52 393 | 2304·92 | −·01 | 3893·57 | ·00 | +·06 | −·34 | 32 | 3804·79 | ·00 | 4449·70 | ·00 | −·01 | +·02 |
| | 53 355 | 2643·78 | −·01 | 7122·01 | ·00 | +·02 | −·02 | 37 | 4038·87 | ·00 | 3945·94 | ·00 | +·12 | −·06 |
| | 52 399 | 2672·67 | −·01 | 2728·16 | ·00 | −·27 | −·11 | 38 | 4086·56 | ·00 | 4839·78 | ·00 | +·11 | −·10 |
| | 51 360 | 2855·03 | −·01 | 1760·21 | ·00 | +·09 | −·18 | 43 | 4834·31 | ·00 | 4090·01 | ·00 | −·01 | +·02 |
| | 53 363 | 3048·99 | ·00 | 6158·76 | ·00 | +·23 | +·57 | 44 | 4858·24 | ·00 | 5062·77 | ·00 | +·18 | −·01 |
| | 52 406 | 3865·64 | ·00 | 4388·04 | ·00 | −·10 | +·32 | | | | | | | |
| | 52 420 | 4904·44 | ·00 | 2627·23 | ·00 | −·31 | −·18 | | | | | Mean | +·04 | −·01 |
| | 53 375 | 4965·70 | −·01 | 6458·01 | −·01 | −·22 | −·18 | | | | | | | |
| | 52 424 | 5276·59 | ·00 | 3723·86 | ·00 | −·04 | +·09 | | | | | | | |
| | 52 433 | 6211·97 | −·01 | 5247·33 | ·00 | −·02 | −·07 | | | | | | | |
| | Eros | 3763·35 | ·00 | 4298·32 | ·00 | ... | ... | | | | | | | |
| November 22 | 52 387 | 1633·97 | −·02 | 3287·75 | −·01 | +·59 | +·10 | 30 | 3359·23 | ·00 | 4482·15 | ·00 | +·01 | +·09 |
| 5257 | 52 393 | 2664·08 | −·01 | 3756·72 | ·00 | −·22 | −·15 | 32 | 4162·91 | ·00 | 4314·92 | ·00 | −·10 | +·11 |
| | 53 355 | 2998·00 | −·01 | 6985·66 | ·00 | +·26 | −·03 | 37 | 4397·74 | ·00 | 3811·44 | ·00 | −·04 | +·06 |
| | 52 399 | 3033·00 | −·01 | 2592·10 | −·01 | −·15 | −·20 | 38 | 4444·17 | ·00 | 4705·35 | ·00 | −·01 | ·00 |
| | 51 360 | 3217·08 | −·01 | 1624·08 | −·01 | −·19 | +·02 | 43 | 5192·69 | ·00 | 3956·69 | ·00 | +·13 | +·01 |
| | 53 363 | 3404·73 | ·00 | 6022·80 | ·00 | +·21 | +·76 | 44 | 5215·30 | ·00 | 4929·45 | ·00 | +·27 | ·00 |
| | 52 406 | 4223·60 | ·00 | 4253·53 | ·00 | +·06 | +·22 | | | | | | | |
| | 52 420 | 5265·11 | ·00 | 2494·25 | ·00 | −·46 | −·40 | | | | | Mean | +·04 | +·05 |
| | 53 375 | 5320·89 | −·01 | 6324·74 | −·01 | −·16 | −·11 | | | | | | | |
| | 52 424 | 5635·70 | ·00 | 3591·30 | ·00 | −·14 | −·07 | | | | | | | |
| | 52 433 | 6568·71 | −·02 | 5115·88 | −·01 | +·15 | −·10 | | | | | | | |
| | Eros | 4106·85 | ·00 | 4147·49 | ·00 | ... | ... | | | | | | | |
| November 22 | 52 387 | 1637·05 | −·02 | 3286·17 | −·01 | +·62 | +·15 | 30 | 3361·52 | ·00 | 4481·71 | ·00 | +·02 | −·01 |
| 5258 | 52 393 | 2666·65 | −·01 | 3755·79 | ·00 | ·00 | −·16 | 32 | 4165·24 | ·00 | 4314·91 | ·00 | −·04 | +·04 |
| | 53 355 | 2998·81 | −·01 | 6985·00 | −·01 | +·18 | −·15 | 37 | 4400·60 | ·00 | 3811·32 | ·01 | −·20 | +·24 |
| | 52 399 | 3036·53 | −·01 | 2591·30 | −·01 | −·17 | −·12 | 38 | 4446·35 | ·00 | 4705·35 | ·00 | −·05 | +·09 |
| | 51 360 | 3220·95 | −·01 | 1623·63 | −·01 | +·06 | −·14 | 43 | 5195·58 | ·00 | 3957·10 | ·00 | −·18 | +·12 |
| | 53 363 | 3406·24 | 00 | 6022·51 | ·00 | +·05 | +·52 | 44 | 5217·69 | ·00 | 4929·86 | ·00 | −·14 | +·12 |
| | 52 406 | 4226·11 | ·00 | 4253·44 | ·00 | −·02 | +·26 | | | | | | | |
| | 52 420 | 5268·35 | ·00 | 2494·57 | ·00 | −·18 | −·15 | | | | | Mean | −·10 | +·10 |
| | 53 375 | 5322·23 | −·01 | 6325·42 | −·01 | −·41 | −·24 | | | | | | | |
| | 52 424 | 5638·64 | ·00 | 3592·08 | ·00 | −·27 | −·06 | | | | | | | |
| | 52 433 | 6570·56 | −·02 | 5117·02 | −·01 | +·11 | +·06 | | | | | | | |
| | Eros | 4097·16 | ·00 | 4133·55 | ·00 | ... | ... | | | | | | | |

* Not used in forming the finally adopted values of *c.* and *f.* (Table IV.), the star being more than 55′ from the centre of the plate.
† Not used in forming the Mean Correction for Comparison Stars (Table X.), the star being more than 25′ from the centre of the plate.
The number given in column 9 is the reference number assigned to the comparison stars in Tables VIII. and IX.

## TABLE II.—Measured Co-ordinates and Residuals, Astrographic 13-inch Refractor.

| Date and Plate No. | Reference Stars. | | | | | | | Comparison Stars. | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | No. in B.D. | x. | Refraction Correction applied. | y. | Refraction Correction applied. | Residuals C—O. x. | Residuals C—O. y. | No. | x. | Refraction Correction applied. | y. | Refraction Correction applied. | Residuals. x. | Residuals. y. |
| 1900. | ° | ″ | ″ | ″ | ″ | ″ | ″ | | ″ | ″ | ″ | ″ | ″ | ″ |
| November 22 | 52 387 | 1642·58 | −·04 | 3288·40 | −·03 | +·44 | −·07 | 30 | 3366·73 | ·00 | 4482·92 | ·00 | −·07 | +·08 |
| 5259 | 52 393 | 2671·91 | −·01 | 3757·58 | −·01 | −·06 | −·33 | 32 | 4170·44 | ·00 | 4315·96 | ·00 | −·22 | +·06 |
| | 53 355 | 3003·83 | −·01 | 6985·83 | −·02 | +·32 | +·04 | 37 | 4405·51 | ·00 | 3812·52 | ·00 | −·13 | +·14 |
| | 52 399 | 3041·70 | −·02 | 2593·10 | −·02 | −·18 | −·22 | 38 | 4451·30 | ·00 | 4706·28 | ·00 | −·03 | +·08 |
| | 51 360 | 3226·24 | −·03 | 1625·49 | −·03 | −·10 | −·19 | 43 | 5200·39 | ·00 | 3958·10 | ·00 | −·12 | −·05 |
| | 53 363 | 3411·29 | −·01 | 6023·44 | −·01 | +·10 | +·63 | 44 | 5222·46 | −·01 | 4930·65 | −·01 | −·04 | −·01 |
| | 52 406 | 4231·21 | ·00 | 4254·60 | ·00 | −·11 | +·17 | | | | | | | |
| | 52 420 | 5273·24 | −·01 | 2495·64 | −·01 | −·21 | −·18 | | | | | Mean | −·10 | +·05 |
| | 53 375 | 5326·97 | −·02 | 6325·59 | −·02 | −·29 | +·01 | | | | | | | |
| | 52 424 | 5643·32 | −·01 | 3592·59 | ·00 | −·14 | +·16 | | | | | | | |
| | 52 433 | 6575·14 | −·03 | 5117·27 | −·02 | +·23 | +·02 | | | | | | | |
| | Eros | 4054·09 | ·00 | 4078·82 | ·00 | ... | ... | | | | | | | |
| November 22 | 52 387 | 1651·65 | −·05 | 3290·67 | −·03 | +·41 | +·03 | 30 | 3376·24 | ·00 | 4484·22 | ·00 | −·05 | −·05 |
| 5260 | 52 393 | 2681·33 | −·01 | 3759·42 | −·01 | −·26 | −·44 | 32 | 4179·69 | ·00 | 4316·78 | ·00 | −·06 | +·04 |
| | 53 355 | 3014·59 | −·01 | 6987·00 | −·02 | +·28 | +·17 | 37 | 4414·59 | ·00 | 3813·32 | ·00 | −·03 | +·03 |
| | 52 399 | 3050·38 | −·02 | 2594·69 | −·02 | −·21 | −·22 | 38 | 4460·93 | ·00 | 4706·97 | ·00 | −·07 | ·00 |
| | 51 360 | 3234·12 | −·04 | 1627·01 | −·04 | +·20 | −·15 | 43 | 5209·48 | ·00 | 3958·36 | ·00 | ·00 | −·10 |
| | 53 363 | 3421·58 | −·01 | 6024·44 | −·01 | +·06 | +·76 | 44 | 5232·23 | −·01 | 4930·65 | −·01 | −·15 | +·12 |
| | 52 406 | 4240·46 | ·00 | 4255·39 | ·00 | +·03 | +·16 | | | | | | | |
| | 52 420 | 5281·60 | ·00 | 2495·96 | −·01 | −·06 | −·21 | | | | | Mean | −·06 | +·01 |
| | 53 375 | 5337·29 | −·03 | 6325·66 | −·03 | −·30 | −·07 | | | | | | | |
| | 52 424 | 5652·35 | −·01 | 3592·67 | ·00 | −·15 | +·07 | | | | | | | |
| | 52 433 | 6585·02 | −·04 | 5116·67 | −·03 | +·04 | −·06 | | | | | | | |
| | Eros | 4051·97 | ·00 | 4066·20 | ·00 | ... | ... | | | | | | | |
| November 23 | 52 387 | 2178·56 | +·01 | 4106·60 | ·00 | +·52 | −·22 | 23 | 3012·24 | ·00 | 4696·30 | ·00 | +·01 | −·14 |
| 5261 | 51 344 | 2432·25 | +·01 | 2393·30 | ·00 | +·50 | +·18 | 28 | 3738·51 | ·00 | 3372·29 | ·00 | +·02 | +·04 |
| | 52 393 | 3206·19 | ·00 | 4580·19 | ·00 | +·06 | −·32 | 30 | 3898·41 | ·00 | 5308·86 | ·00 | +·06 | −·05 |
| | 52 399 | 3580·65 | ·00 | 3417·01 | ·00 | −·26 | −·03 | 32 | 4702·75 | ·00 | 5145·40 | ·00 | +·04 | −·04 |
| | 51 360 | 3768·80 | ·00 | 2450·25 | ·00 | −·11 | −·14 | 37 | 4940·10 | ·00 | 4643·08 | ·00 | −·12 | +·17 |
| | 53 363 | 3937·40 | +·01 | 6849·79 | −·01 | −·07 | +·61 | 40 | 5013·50 | ·00 | 3466·81 | ·00 | −·12 | +·02 |
| | 51 364 | 4098·91 | ·00 | 2028·40 | ·00 | +·15 | +·48 | | | | | | | |
| | 52 406 | 4763·84 | ·00 | 5084·38 | ·00 | +·03 | −·05 | | | | | Mean | −·02 | ·00 |
| | 52 420 | 5812·66 | +·01 | 3329·27 | ·00 | −·07 | +·01 | | | | | | | |
| | 53 375 | 5852·41 | +·01 | 7160·59 | ·00 | −·49 | −·11 | | | | | | | |
| | 52 424 | 6178·88 | +·01 | 4428·44 | ·00 | −·16 | −·09 | | | | | | | |
| | 52 433 | 7105·57 | +·02 | 5957·61 | ·00 | −·13 | −·28 | | | | | | | |
| | Eros | 4207·00 | ·00 | 4452·88 | ·00 | ... | ... | | | | | | | |
| November 23 | 52 387 | 2191·83 | +·01 | 4106·13 | ·00 | +·76 | −·13 | 23 | 3025·61 | ·00 | 4695·98 | ·00 | +·15 | −·19 |
| 5262 | 51 344 | 2445·77 | +·01 | 2393·11 | ·00 | +·56 | −·04 | 28 | 3752·09 | ·00 | 3371·92 | ·00 | +·01 | +·03 |
| | 52 393 | 3219·71 | ·00 | 4579·93 | ·00 | +·05 | −·43 | 30 | 3911·73 | ·00 | 5308·60 | ·00 | +·22 | −·15 |
| | 52 399 | 3594·24 | ·00 | 3416·78 | ·00 | −·30 | −·20 | 32 | 4716·37 | ·00 | 5145·10 | ·00 | −·06 | −·11 |
| | 51 360 | 3782·51 | ·00 | 2450·01 | ·00 | −·21 | −·30 | 37 | 4953·50 | ·00 | 4642·57 | ·00 | +·02 | −·03 |
| | 53 363 | 3950·78 | +·01 | 6849·33 | ·00 | −·01 | +·72 | 40 | 5027·05 | ·00 | 3466·42 | ·00 | −·07 | +·02 |
| | 51 364 | 4112·77 | ·00 | 2028·16 | ·00 | −·08 | +·32 | | | | | | | |
| | 52 406 | 4777·32 | ·00 | 5083·89 | ·00 | +·07 | +·06 | | | | | Mean | +·05 | −·07 |
| | 52 420 | 5826·24 | +·01 | 3328·92 | ·00 | −·03 | −·04 | | | | | | | |

* Not used in forming the finally adopted values of *c.* and *f.* (Table IV.), the star being more than 55′ from the centre of the plate.
† Not used in forming the Mean Correction for Comparison Stars (Table X.), the star being more than 25′ from the centre of the plate.
The number given in column 9 is the reference number assigned to the comparison stars in Tables VIII. and IX.

TABLE II.—Measured Co-ordinates and Residuals, Astrographic 13-inch Refractor.

| Date and Plate No. | Reference Stars. | | | | | | | Comparison Stars. | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | No. in B.D. | x. | Refraction Correction applied. | y. | Refraction Correction applied. | Residuals C—O., | | No. | x. | Refraction Correction applied. | y. | Refraction Correction applied. | Residuals. | |
| | | | | | | x. | y. | | | | | | x. | y. |
| | • | " | " | " | " | " | " | | " | " | " | " | " | " |
| 1900.<br>November 23<br>5262—*contd.* | 53 375 | 5865·78 | +·01 | 7160·25 | ·00 | −·40 | −·11 | | | | | | | |
| | 52 424 | 6192·68 | +·01 | 4427·75 | ·00 | −·39 | +·23 | | | | | | | |
| | 52 433 | 7119·01 | ·00 | 5957·04 | ·00 | −·04 | −·07 | | | | | | | |
| | Eros | 4208·56 | ·00 | 4440·63 | ·00 | ... | ... | | | | | | | |
| November 23<br>5263 | 52 387 | 2202·35 | ·00 | 4134·81 | ·00 | +·58 | +·04 | 23 | 3036·53 | ·00 | 4723·96 | ·00 | +·02 | +·13 |
| | 51 344 | 2455·11 | ·00 | 2421·52 | ·00 | +·62 | +·21 | 28 | 3762·08 | ·00 | 3399·69 | ·00 | +·11 | +·06 |
| | 52 393 | 3230·64 | ·00 | 4607·80 | ·00 | −·14 | −·12 | 30 | 3923·14 | ·00 | 5336·12 | ·00 | +·05 | +·06 |
| | 52 399 | 3604·37 | ·00 | 3444·60 | ·00 | −·32 | −·11 | 32 | 4727·41 | ·00 | 5172·15 | ·00 | +·12 | +·04 |
| | 51 360 | 3791·83 | ·00 | 2477·66 | ·00 | +·02 | −·18 | 37 | 4964·23 | ·00 | 4669·58 | ·00 | +·26 | ·00 |
| | 53 363 | 3963·01 | ·00 | 6877·40 | ·00 | −·11 | +·40 | 40 | 5037·16 | ·00 | 3493·45 | ·00 | +·11 | −·05 |
| | 51 364 | 4121·95 | ·00 | 2055·72 | ·00 | +·09 | +·31 | | | | | | | |
| | 52 406 | 4788·64 | ·00 | 5110·82 | ·00 | −·05 | +·31 | | | | | Mean | +·11 | +·04 |
| | 52 420 | 5836·52 | ·00 | 3355·53 | ·00 | −·01 | −·21 | | | | | | | |
| | 53 375 | 5878·16 | ·00 | 7187·07 | ·00 | −·26 | −·45 | | | | | | | |
| | 52 424 | 6203·44 | ·00 | 4454·19 | ·00 | −·18 | ·00 | | | | | | | |
| | 52 433 | 7131·16 | ·00 | 5982·75 | ·00 | −·22 | −·15 | | | | | | | |
| | Eros | 4104·19 | ·00 | 4352·46 | ·00 | ... | ... | | | | | | | |
| November 23<br>5264 | 52 387 | 2212·39 | ·00 | 4134·18 | ·00 | +·51 | −·03 | 23 | 3046·58 | ·00 | 4723·23 | ·00 | −·05 | +·14 |
| | 51 344 | 2465·18 | ·00 | 2420·90 | ·00 | +·46 | +·12 | 28 | 3772·16 | ·00 | 3398·87 | ·00 | −·03 | +·13 |
| | 52 393 | 3240·56 | ·00 | 4606·98 | ·00 | −·09 | −·04 | 30 | 3933·15 | ·00 | 5335·27 | ·00 | +·04 | +·15 |
| | 52 399 | 3614·13 | ·00 | 3443·82 | ·00 | −·15 | −·07 | 32 | 4737·38 | ·00 | 5171·40 | ·00 | +·15 | ·00 |
| | 51 360 | 3802·00 | ·00 | 2476·99 | ·00 | −·23 | −·26 | 37 | 4974·22 | ·00 | 4668·81 | ·00 | +·24 | −·02 |
| | 53 363 | 3972·96 | ·00 | 6876·47 | ·00 | −·01 | +·57 | 40 | 5047·12 | ·00 | 3492·50 | ·00 | +·10 | +·12 |
| | 51 364 | 4131·90 | ·00 | 2055·15 | ·00 | +·04 | +·11 | | | | | | | |
| | 52 406 | 4798·60 | ·00 | 5110·04 | ·00 | −·02 | +·30 | | | | | Mean | +·08 | +·09 |
| | 52 420 | 5846·63 | ·00 | 3354·67 | ·00 | −·19 | −·17 | | | | | | | |
| | 53 375 | 5888·04 | ·00 | 7186·12 | ·00 | −·08 | −·32 | | | | | | | |
| | 52 424 | 6213·47 | ·00 | 4453·38 | ·00 | −·23 | −·01 | | | | | | | |
| | 52 433 | 7140·99 | ·00 | 5981·89 | ·00 | −·03 | −·14 | | | | | | | |
| | Eros | 4100·30 | ·00 | 4337·27 | ·00 | ... | ... | | | | | | | |
| November 25<br>5267 | 51 334 | 2430·66 | ·00 | 2388·95 | ·00 | +·17 | +·15 | 11 | 2420·41 | ·00 | 3805·75 | ·00 | +·03 | −·06 |
| | 51 338 | 2885·35 | ·00 | 2423·29 | ·00 | −·27 | −·09 | 21 | 3789·14 | ·00 | 3474·43 | ·00 | −·04 | −·17 |
| | 52 387 | 3616·25 | ·00 | 5816·20 | ·00 | +·75 | −·07 | 23 | 4444·69 | ·00 | 6413·30 | ·00 | +·15 | +·02 |
| | 51 344 | 3885·55 | ·00 | 4105·45 | ·00 | +·65 | +·14 | 27 | 4875·78 | ·00 | 2878·00 | ·00 | −·10 | +·11 |
| | 52 393 | 4639·77 | ·00 | 6299·20 | ·00 | +·17 | −·37 | 28 | 5183·13 | ·00 | 5096·14 | ·00 | −·03 | −·19 |
| | 52 399 | 5024·82 | ·00 | 5139·44 | ·00 | −·24 | −·22 | 40 | 6457·34 | ·00 | 5202·00 | ·00 | −·06 | −·17 |
| | 51 357 | 5036·55 | ·00 | 2803·05 | ·00 | +·10 | +·43 | | | | | | | |
| | 51 360 | 5221·50 | ·00 | 4174·18 | ·00 | +·11 | −·11 | | | | | Mean | −·01 | −·08 |
| | 51 363 | 5501·64 | +·01 | 1359·37 | ·00 | (−·87) | −·01 | | | | | | | |
| | 51 364 | 5555·94 | ·00 | 3755·47 | ·00 | −·14 | +·34 | | | | | | | |
| | 52 406 | 6193·30 | +·01 | 6817·42 | ·00 | −·05 | −·10 | | | | | | | |
| | 52 420 | 7258·30 | +·01 | 5071·56 | ·00 | −·38 | −·12 | | | | | | | |
| | Eros | 4288·13 | ·00 | 4367·72 | ·00 | ... | ... | | | | | | | |

* Not used in forming the finally adopted values of *c.* and *f.* (Table IV.), the star being more than 55′ from the centre of the plate.
† Not used in forming the Mean Correction for Comparison Stars (Table X.), the star being more than 25′ from the centre of the plate.
The number given in column 9 is the reference number assigned to the comparison stars in Tables VIII. and IX.

TABLE II.—Measured Co-ordinates and Residuals, Astrographic 13-inch Refractor.

| Date and Plate No. | Reference Stars. | | | | | | | Comparison Stars. | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | No. in B.D. | x. | Refraction Correction applied. | y. | Refraction Correction applied. | Residuals C—O. x. | Residuals C—O. y. | No. | x. | Refraction Correction applied. | y. | Refraction Correction applied. | Residuals. x. | Residuals. y. |
| 1900. | ° | ″ | ″ | ″ | ″ | ″ | ″ | | ″ | ″ | ″ | ″ | ″ | ″ |
| November 25 | 51 334 | 1779·07 | ·00 | 2509·84 | ·00 | +·08 | −·02 | 11 | 1774·93 | ·00 | 3926·39 | ·00 | +·22 | +·12 |
| 5268 | 51 338 | 2233·99 | ·00 | 2541·97 | ·00 | −·45 | −·09 | 21 | 3142·33 | ·00 | 3588·82 | ·00 | +·08 | +·07 |
| | 52 387 | 2980·40 | ·00 | 5931·57 | ·00 | +·47 | −·03 | 23 | 3811·61 | ·00 | 6525·05 | ·00 | −·14 | −·07 |
| | 51 344 | 3241·89 | ·00 | 4219·57 | ·00 | +·44 | +·17 | 27 | 4226·02 | ·00 | 2987·85 | ·00 | +·31 | −·06 |
| | 52 393 | 4005·95 | ·00 | 6410·01 | ·00 | +·06 | −·42 | 28 | 4543·75 | ·00 | 5204·28 | ·00 | +·04 | −·05 |
| | 52 399 | 4385·51 | ·00 | 5248·23 | ·00 | −·06 | −·01 | 40 | 5818·37 | ·00 | 5304·31 | ·00 | +·04 | −·02 |
| | 51 357 | 4386·92 | ·00 | 2912·25 | ·00 | +·01 | +·21 | | | | | | | |
| | 51 360 | 4578·20 | ·00 | 4282·29 | ·00 | −·11 | −·10 | | | | | Mean | +·09 | ·00 |
| | 51 363 | 4844·79 | ·00 | 1466·51 | ·00 | −·30 | −·22 | | | | | | | |
| | 51 364 | 4910·45 | ·00 | 3862·07 | ·00 | −·08 | +·34 | | | | | | | |
| | 52 406 | 5561·53 | ·00 | 6920·77 | ·00 | +·15 | +·21 | | | | | | | |
| | 52 420 | 6618·66 | ·00 | 5170·34 | ·00 | −·27 | −·06 | | | | | | | |
| | Eros | 3605·88 | ·00 | 4429·23 | ·00 | ... | ... | | | | | | | |
| November 25 | 51 334 | 1117·12 | ·00 | 2369·45 | ·00 | +·16 | +·22 | 11 | 1118·25 | ·00 | 3786·16 | ·00 | +·18 | +·26 |
| 5269 | 51 338 | 1572·14 | ·00 | 2400·28 | ·00 | −·30 | −·19 | 21 | 2484·48 | ·00 | 3443·68 | ·00 | +·06 | +·16 |
| | 52 387 | 2330·98 | ·00 | 5787·36 | ·00 | +·54 | −·25 | 23 | 3164·45 | ·00 | 6377·38 | ·00 | −·14 | +·13 |
| | 51 344 | 2586·18 | ·00 | 4074·26 | ·00 | +·61 | +·08 | 27 | 3566·22 | ·00 | 2838·81 | ·00 | +·10 | −·01 |
| | 52 393 | 3358·33 | ·00 | 6261·76 | ·00 | +·13 | −·37 | 28 | 3891·96 | ·00 | 5054·13 | ·00 | −·12 | −·05 |
| | 51 357 | 3726·57 | ·00 | 2762·67 | ·00 | +·06 | +·22 | 40 | 5166·79 | ·00 | 5149·43 | ·00 | ·00 | +·06 |
| | 52 399 | 3733·87 | ·00 | 5098·64 | ·00 | −·24 | +·01 | | | | | | | |
| | 51 360 | 3922·86 | ·00 | 4131·94 | ·00 | −·08 | −·03 | | | | | Mean | −·01 | +·09 |
| | 51 363 | 4179·39 | ·00 | 1315·24 | ·00 | −·44 | −·19 | | | | | | | |
| | 51 364 | 4253·64 | ·00 | 3710·45 | ·00 | −·10 | +·49 | | | | | | | |
| | 52 406 | 4915·90 | ·00 | 6766·91 | ·00 | +·05 | +·13 | | | | | | | |
| | 52 420 | 5966·59 | ·00 | 5012·62 | ·00 | −·37 | −·09 | | | | | | | |
| | Eros | 2940·55 | ·00 | 4268·83 | ·00 | ... | ... | | | | | | | |
| November 27 | 51 317 | 1207·66 | +·02 | 4143·00 | ·00 | +·42 | −·50 | 9 | 2923·94 | ·00 | 3078·75 | ·00 | −·04 | +·06 |
| 5270 | 51 323 | 1985·80 | +·01 | 5481·56 | −·01 | −·26 | +·08 | 11 | 3509·24 | ·00 | 5744·45 | ·00 | +·04 | −·13 |
| | 50 300 | 2499·20 | +·01 | 1916·40 | ·00 | +·54 | +·10 | 13 | 3716·47 | ·00 | 3186·94 | ·00 | +·02 | +·16 |
| | 51 331 | 3177·96 | ·00 | 3175·47 | ·00 | +·03 | +·21 | 21 | 4878·16 | ·00 | 5413·75 | ·00 | −·22 | +·01 |
| | 51 334 | 3520·26 | ·00 | 4327·92 | ·00 | +·07 | −·05 | 26 | 5931·24 | +·01 | 3867·69 | ·00 | −·07 | +·08 |
| | 51 339 | 4543·03 | ·00 | 2865·58 | ·00 | −·34 | +·03 | 27 | 5964·87 | +·01 | 4818·26 | ·00 | −·19 | −·01 |
| | 51 344 | 4974·38 | ·00 | 6045·03 | ·00 | +·27 | +·06 | | | | | | | |
| | 51 357 | 6125·80 | +·01 | 4743·35 | ·00 | −·22 | +·35 | | | | | Mean | −·08 | +·03 |
| | 51 360 | 6310·09 | +·01 | 6114·50 | ·00 | −·07 | −·08 | | | | | | | |
| | 51 363 | 6590·62 | +·01 | 3300·20 | −·01 | −·42 | −·19 | | | | | | | |
| | Eros | 4321·34 | ·00 | 4447·47 | ·00 | ... | ... | | | | | | | |
| November 27 | 51 317 | 1204·56 | +·02 | 4151·81 | ·00 | +·31 | −·44 | 9 | 2927·75 | ·00 | 3098·81 | ·00 | +·03 | +·10 |
| 5271 | 51 323 | 1973·79 | +·01 | 5495·14 | −·01 | −·30 | +·49 | 11 | 3495·58 | ·00 | 5768·25 | ·00 | −·07 | +·04 |
| | 50 300 | 2510·77 | +·01 | 1933·80 | ·00 | +·57 | −·01 | 13 | 3719·70 | ·00 | 3212·21 | ·00 | −·02 | +·16 |
| | 51 331 | 3181·20 | ·00 | 3197·29 | ·00 | +·06 | +·16 | 21 | 4866·32 | ·00 | 5446·77 | ·00 | +·06 | −·07 |
| | 51 334 | 3515·86 | ·00 | 4351·85 | ·00 | +·09 | +·03 | 26 | 5929·91 | +·01 | 3907·66 | ·00 | −·01 | −·07 |
| | 51 339 | 4548·19 | ·00 | 2896·27 | ·00 | −·12 | +·05 | 27 | 5957·26 | +·01 | 4858·36 | ·00 | −·15 | −·07 |
| | 51 344 | 4958·70 | ·00 | 6078·63 | ·00 | +·24 | +·03 | | | | | | | |
| | 51 357 | 6118·47 | +·01 | 4784·57 | ·00 | +·05 | +·24 | | | | | Mean | −·03 | +·02 |
| | 51 360 | 6294·12 | +·01 | 6156·95 | ·00 | −·25 | −·18 | | | | | | | |
| | 51 363 | 6593·20 | +·01 | 3344·47 | ·00 | −·47 | −·33 | | | | | | | |
| | Eros | 4307·43 | ·00 | 4461·84 | ·00 | ... | ... | | | | | | | |

* Not used in forming the finally adopted values of *c.* and *f.* (Table IV.), the star being more than 55′ from the centre of the plate.
† Not used in forming the Mean Correction for Comparison Stars (Table X.), the star being more than 25′ from the centre of the plate.
The number given in column 9 is the reference number assigned to the comparison stars in Tables VIII. and IX.

### TABLE II.—Measured Co-ordinates and Residuals, Astrographic 13-inch Refractor.

| Date and Plate No. | Reference Stars. | | | | | | | Comparison Stars. | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | No. in B.D. | x. | Refraction Correction applied. | y. | Refraction Correction applied. | Residuals. C—O. x. | Residuals. C—O. y. | No. | x. | Refraction Correction applied. | y. | Refraction Correction. applied. | Residuals. x. | Residuals. y. |
| 1900. | ° | " | " | " | " | " | " | | " | " | " | " | " | " |
| November 27<br>5272 | 51 317 | 1260·57 | +·01 | 4150·32 | ·00 | −·04 | −·31 | 9 | 2983·00 | ·00 | 3096·54 | ·00 | −·12 | −·02 |
| | 51 323 | 2030·40 | +·01 | 5493·48 | ·00 | −·48 | +·34 | 11 | 3552·23 | ·00 | 5765·39 | ·00 | −·10 | +·19 |
| | 50 300 | 2565·29 | +·01 | 1931·76 | ·00 | +·46 | −·12 | 13 | 3774·83 | ·00 | 3209·55 | ·00 | +·03 | −·05 |
| | 51 331 | 3236·50 | ·00 | 3194·82 | ·00 | −·09 | +·08 | 21 | 4922·88 | ·00 | 5443·02 | ·00 | −·02 | +·13 |
| | 51 334 | 3571·74 | ·00 | 4349·25 | ·00 | +·01 | −·11 | 26 | 5985·55 | ·00 | 3903·54 | ·00 | −·02 | −·14 |
| | 51 339 | 4603·23 | ·00 | 2892·89 | ·00 | −·18 | +·05 | 27 | 6013·27 | +·01 | 4853·98 | ·00 | +·01 | +·12 |
| | 51 344 | 5015·50 | ·00 | 6075·05 | ·00 | +·26 | +·02 | | | | | | | |
| | 51 357 | 6174·33 | +·01 | 4780·21 | ·00 | +·30 | +·31 | | | | | Mean | −·04 | +·04 |
| | 51 360 | 6350·70 | +·01 | 6152·30 | ·00 | +·06 | +·06 | | | | | | | |
| | 51 363 | 6648·29 | +·01 | 3339·81 | ·00 | −·27 | −·27 | | | | | | | |
| | Eros | 4355·22 | ·00 | 4445·03 | ·00 | ... | ... | | | | | | | |
| November 27<br>5273 | 51 317 | 1229·44 | ·00 | 4174·27 | ·00 | +·32 | −·11 | 9 | 2952·02 | ·00 | 3120·44 | ·00 | +·12 | −·02 |
| | 51 323 | 1999·84 | ·00 | 5517·74 | ·00 | −·53 | +·14 | 11 | 3521·78 | ·00 | 5789·55 | ·00 | −·13 | −·11 |
| | 50 300 | 2534·18 | ·00 | 1955·75 | ·00 | +·70 | −·15 | 13 | 3744·16 | ·00 | 3233·37 | ·00 | +·03 | −·06 |
| | 51 331 | 3205·59 | ·00 | 3218·58 | ·00 | +·11 | +·20 | 21 | 4892·39 | ·00 | 5466·96 | ·00 | +·05 | −·12 |
| | 51 334 | 3541·05 | ·00 | 4373·06 | ·00 | +·11 | −·07 | 26 | 5954·99 | ·00 | 3926·93 | ·00 | +·06 | −·01 |
| | 51 339 | 4572·87 | ·00 | 2916·68 | ·00 | −·46 | −·03 | 27 | 5982·82 | ·00 | 4877·74 | ·00 | +·06 | −·11 |
| | 51 344 | 4985·07 | ·00 | 6098·76 | ·00 | +·34 | ·00 | | | | | | | |
| | 51 357 | 6144·30 | ·00 | 4803·77 | ·00 | −·05 | +·26 | | | | | Mean | +·03 | −·07 |
| | 51 360 | 6320·57 | ·00 | 6175·94 | ·00 | −·07 | −·06 | | | | | | | |
| | 51 363 | 6618·02 | ·00 | 3363·15 | ·00 | −·46 | −·17 | | | | | | | |
| | Eros | 4257·71 | ·00 | 4356·01 | ·00 | ... | ... | | | | | | | |
| November 27<br>5274 | 51 317 | 1225·28 | ·00 | 4173·89 | ·00 | +·43 | −·22 | 9 | 2948·16 | ·00 | 3120·12 | ·00 | +·08 | ·00 |
| | 51 323 | 1995·51 | ·00 | 5517·49 | ·00 | −·41 | −·02 | 11 | 3517·59 | ·00 | 5789·51 | ·00 | −·16 | −·30 |
| | 50 300 | 2530·30 | ·00 | 1955·41 | ·00 | +·82 | −·16 | 13 | 3740·17 | ·00 | 3233·13 | ·00 | +·11 | −·03 |
| | 51 331 | 3201·72 | ·00 | 3218·34 | ·00 | +·05 | +·16 | 21 | 4888·29 | ·00 | 5466·74 | ·00 | −·01 | +·02 |
| | 51 334 | 3537·06 | ·00 | 4372·86 | ·00 | +·05 | −·10 | 26 | 5951·05 | ·00 | 3926·84 | ·00 | +·03 | +·12 |
| | 51 339 | 4569·09 | ·00 | 2916·38 | ·00 | −·54 | +·14 | 27 | 5978·75 | ·00 | 4877·62 | ·00 | +·05 | +·06 |
| | 51 344 | 4980·93 | ·00 | 6098·64 | ·00 | +·22 | +·04 | | | | | | | |
| | 51 357 | 6140·20 | ·00 | 4803·78 | ·00 | −·02 | +·30 | | | | | Mean | +·02 | −·02 |
| | 51 360 | 6316·28 | ·00 | 6175·93 | ·00 | −·01 | +·03 | | | | | | | |
| | 51 363 | 6614·26 | ·00 | 3363·23 | ·00 | −·60 | −·15 | | | | | | | |
| | Eros | 4243·60 | ·00 | 4338·40 | ·00 | ... | ... | | | | | | | |
| November 29<br>5275 | 51 317 | 2071·11 | ·00 | 6286·05 | ·00 | +·16 | −·38 | 9 | 3798·84 | ·00 | 5240·30 | ·00 | −·09 | −·13 |
| | 50 298 | 3036·39 | ·00 | 2921·93 | ·00 | +·41 | +·38 | 13 | 4590·39 | ·00 | 5357·00 | ·00 | −·14 | −·16 |
| | 50 299 | 3121·57 | ·00 | 1702·76 | ·00 | −·32 | +·14 | | | | | | | |
| | 50 300 | 3386·38 | ·00 | 4073·43 | ·00 | +·74 | +·03 | | | | | Mean | (−·11) | (−·15) |
| | 50 301 | 3480·16 | ·00 | 1907·10 | ·00 | +·02 | +·20 | | | | | | | |
| | 51 331 | 4051·84 | ·00 | 5339·63 | ·00 | −·06 | +·09 | | | | | | | |
| | 51 334 | 4381·65 | ·00 | 6495·86 | ·00 | +·05 | −·26 | | | | | | | |
| | 51 338 | 4835·86 | ·00 | 6535·17 | ·00 | −·34 | −·38 | | | | | | | |
| | 51 339 | 5420·32 | ·00 | 5044·10 | ·00 | −·37 | +·02 | | | | | | | |
| | 50 314 | 5622·69 | ·00 | 3287·50 | ·00 | −·34 | +·17 | | | | | | | |
| | Eros | 4223·71 | ·00 | 4323·96 | ·00 | ... | ... | | | | | | | |

* Not used in forming the finally adopted values of *c.* and *f.* (Table IV.), the star being more than 55′ from the centre of the plate.

† Not used in forming the Mean Correction for Comparison Stars (Table X.), the star being more than 25′ from the centre of the plate.

The number given in column 9 is the reference number assigned to the comparison stars in Tables VIII. and IX.

TABLE II.—Measured Co-ordinates and Residuals, Astrographic 13-inch Refractor.

| Date and Plate No. | Reference Stars. | | | | | | | Comparison Stars. | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | No. in B.D. | x. | Refraction Correction applied. | y. | Refraction Correction applied. | Residuals. C—O. | | No. | x. | Refraction Correction applied. | y. | Refraction Correction. applied. | Residuals. | |
| | | | | | | x. | y. | | | | | | x. | y. |
| 1900. | ° | " | " | " | " | " | " | | " | " | " | " | " | " |
| December 6 | 49 399 | 2712·44 | −·01 | 7044·26 | −·01 | −·16 | ·00 | 2 | 3163·59 | ·00 | 4692·72 | ·00 | +·14 | −·06 |
| 5276 | 47 434 | 3174·48 | −·02 | 1549·59 | −·01 | +·35 | +·08 | 3 | 3193·45 | −·02 | 1557·93 | −·01 | +·05† | −·06† |
| | 48 453 | 3224·03 | ·00 | 4889·62 | ·00 | −·45 | +·18 | 5 | 3530·15 | ·00 | 2881·75 | ·00 | −·07 | +·02 |
| | 48 454 | 3529·09 | ·00 | 3792·38 | ·00 | +·44 | −·10 | 7 | 4167·44 | ·00 | 2466·48 | ·00 | +·16 | −·19 |
| | 48 455 | 3530·04 | ·00 | 2881·80 | ·00 | −·07 | −·18 | 8 | 4274·70 | ·00 | 5496·49 | ·00 | +·12 | −·11 |
| | 47 442 | 4032·10 | −·01 | 1554·23 | −·01 | +·02 | −·13 | 14 | 5621·19 | −·01 | 4486·77 | ·00 | −·13 | +·12 |
| | 48 463 | 4626·81 | ·00 | 3720·94 | ·00 | −·05 | +·22 | 17 | 5945·43 | −·01 | 3764·04 | ·00 | −·01 | ·00 |
| | 47 450 | 5123·08 | −·01 | 1571·96 | −·01 | −·01 | +·27 | | | | | | | |
| | 48 470 | 5255·77 | −·01 | 5689·30 | −·01 | −·45 | −·40 | | | | | Mean | +·04 | −·04 |
| | 48 477 | 6279·85 | −·01 | 4407·07 | ·00 | +·40 | +·14 | | | | | | | |
| | 47 460 | 6468·90 | −·01 | 2675·88 | ·00 | −·04 | −·09 | | | | | | | |
| | 49 418 | 6770·96 | −·03 | 7062·47 | −·03 | +1·59* | +·55* | | | | | | | |
| | Eros | 4166·11 | ·00 | 4166·39 | ·00 | ... | ... | | | | | | | |
| December 6 | 49 399 | 2723·03 | −·02 | 7044·79 | −·02 | −·03 | −·06 | 2 | 3172·86 | ·00 | 4693·33 | ·00 | +·09 | −·26 |
| 5277 | 47 434 | 3181·93 | −·03 | 1550·19 | −·03 | +·20 | +·36 | 3 | 3201·08 | −·03 | 1558·43 | −·03 | −·28† | +·30† |
| | 48 453 | 3233·27 | ·00 | 4889·88 | ·00 | −·36 | +·24 | 5 | 3538·17 | −·01 | 2882·13 | −·01 | −·03 | −·01 |
| | 48 454 | 3538·18 | ·00 | 3792·42 | ·00 | +·17 | +·08 | 7 | 4175·49 | −·01 | 2466·00 | −·01 | −·19 | +·10 |
| | 48 455 | 3538·16 | −·01 | 2882·15 | −·01 | −·13 | −·17 | 8 | 4284·46 | ·00 | 5495·39 | −·01 | −·10 | +·25 |
| | 47 442 | 4039·14 | −·02 | 1554·29 | −·02 | +·16 | −·12 | 14 | 5629·70 | −·01 | 4484·90 | −·01 | +·10 | +·14 |
| | 48 463 | 4635·20 | ·00 | 3720·24 | ·00 | −·03 | +·12 | 17 | 5953·57 | −·01 | 3762·06 | −·01 | +·08 | −·05 |
| | 47 450 | 5130·02 | −·01 | 1571·09 | −·01 | +·08 | +·18 | | | | | | | |
| | 48 470 | 5265·16 | −·01 | 5687·66 | −·01 | −·31 | −·44 | | | | | Mean | −·01 | +·03 |
| | 48 477 | 6288·74 | −·02 | 4404·76 | −·01 | +·10 | +·01 | | | | | | | |
| | 47 460 | 6476·21 | −·02 | 2673·65 | −·01 | +·15 | −·22 | | | | | | | |
| | Eros | 4179·16 | ·00 | 4075·80 | ·00 | ... | ... | | | | | | | |
| December 6 | 49 399 | 2722·03 | −·01 | 7042·02 | −·02 | −·08 | +·09 | 2 | 3173·54 | ·00 | 4690·61 | ·00 | +·03 | +·31 |
| 5278 | 47 434 | 3184·71 | −·04 | 1548·54 | −·04 | +·31 | +·12 | 3 | 3203·77 | −·03 | 1556·84 | −·04 | −·09† | ·00† |
| | 48 453 | 3233·91 | ·00 | 4887·71 | ·00 | −·52 | +·27 | 5 | 3539·94 | −·01 | 2880·32 | −·01 | +·10 | ·00 |
| | 48 454 | 3539·33 | ·00 | 3790·62 | ·00 | +·28 | ·00 | 7 | 4177·52 | −·01 | 2464·79 | −·01 | −·02 | −·07 |
| | 48 455 | 3539·96 | −·01 | 2880·33 | −·01 | −·02 | −·16 | 8 | 4284·38 | −·01 | 5494·20 | −·01 | −·02 | −·13 |
| | 47 442 | 4042·11 | −·02 | 1552·91 | −·03 | +·04 | −·12 | 14 | 5630·42 | −·01 | 4484·24 | −·01 | +·05 | +·13 |
| | 48 463 | 4636·48 | ·00 | 3718·87 | ·00 | −·05 | +·27 | 17 | 5954·88 | −·01 | 3761·58 | −·01 | −·05 | ·00 |
| | 47 450 | 5132·87 | −·01 | 1570·41 | −·02 | +·03 | +·13 | | | | | | | |
| | 48 470 | 5265·01 | −·02 | 5686·53 | −·02 | −·34 | −·30 | | | | | Mean | +·02 | +·04 |
| | 48 477 | 6289·17 | −·02 | 4404·62 | −·01 | +·37 | −·14 | | | | | | | |
| | 47 460 | 6478·35 | −·02 | 2673·56 | −·01 | −·04 | −·17 | | | | | | | |
| | Eros | 4181·45 | ·00 | 4053·25 | ·00 | ... | ... | | | | | | | |
| December 7 | 47 434 | 3090·06 | ·00 | 2975·94 | ·00 | +·28 | +·13 | 1 | 2621·67 | ·00 | 3517·61 | ·00 | +·04 | +·11 |
| 5279 | 48 453 | 3144·71 | ·00 | 6316·17 | ·00 | −·59 | +·08 | 2 | 3083·94 | ·00 | 6119·27 | ·00 | +·09 | −·14 |
| | 48 455 | 3448·12 | ·00 | 4307·69 | ·00 | −·04 | −·08 | 3 | 3109·86 | ·00 | 2984·03 | ·00 | +·10 | +·23 |
| | 48 454 | 3448·74 | ·00 | 5218·18 | ·00 | +·24 | +·02 | 7 | 4085·24 | ·00 | 3891·27 | ·00 | +·06 | +·31 |
| | 47 442 | 3948·56 | ·00 | 2979·48 | ·00 | +·08 | +·10 | 14 | 5541·53 | ·00 | 5910·89 | ·00 | +·07 | −·19 |
| | 48 463 | 4546·08 | ·00 | 5145·68 | ·00 | +·02 | +·30 | 17 | 5865·07 | ·00 | 5187·48 | ·00 | −·03 | −·04 |
| | 47 450 | 5039·93 | ·00 | 2996·30 | ·00 | −·22 | +·21 | | | | | | | |
| | 48 470 | 5177·85 | ·00 | 7133·82 | ·00 | −·52 | −·57 | | | | | Mean | +·06 | +·05 |
| | 48 477 | 6200·42 | ·00 | 5830·50 | ·00 | +·36 | −·21 | | | | | | | |
| | 47 460 | 6387·12 | ·00 | 4098·60 | ·00 | −·03 | +·02 | | | | | | | |
| | 47 463 | 6603·17 | ·00 | 2632·71 | ·00 | +·46 | +·05 | | | | | | | |
| | Eros | 4193·17 | ·00 | 4561·86 | ·00 | ... | ... | | | | | | | |

* Not used in forming the finally adopted values of *c.* and *f.* (Table IV.), the star being more than 55′ from the centre of the plate.
† Not used in forming the Mean Correction for Comparison Stars (Table X.), the star being more than 25′ from the centre of the plate.
The number given in column 9 is the reference number assigned to the comparison stars in Tables VIII. and IX.

TABLE II.—Measured Co-ordinates and Residuals, Astrographic 13-inch Refractor.

| Date and Plate No. | Reference Stars. | | | | | | | Comparison Stars. | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | No. in B.D. | x. | Refraction Correction applied. | y. | Refraction Correction applied. | Residuals C—O. x. | Residuals C—O. y. | No. | x. | Refraction Correction applied. | y. | Refraction Correction applied. | Residuals. x. | Residuals. y. |
| 1900. | ° | " | " | " | " | " | " | | " | " | " | " | " | " |
| December 7 | 47 434 | 3069·08 | ·00 | 2907·25 | ·00 | +·40 | +·15 | 1 | 2595·36 | ·00 | 3445·03 | ·00 | +·05 | +·01 |
| 5280 | 48 453 | 3094·81 | ·00 | 6247·69 | ·00 | −·63 | +·15 | 2 | 3035·73 | ·00 | 6050·20 | ·00 | +·03 | +·02 |
| | 48 454 | 3408·04 | ·00 | 5152·66 | ·00 | +·25 | −·16 | 3 | 3088·01 | ·00 | 2915·76 | ·00 | +·10 | −·03 |
| | 48 455 | 3415·06 | ·00 | 4241·97 | ·00 | ·00 | −·11 | 7 | 4055·73 | ·00 | 3831·27 | ·00 | +·02 | −·03 |
| | 47 442 | 3926·80 | ·00 | 2918·20 | ·00 | +·02 | −·08 | 14 | 5494·98 | ·00 | 5862·65 | ·00 | −·05 | −·13 |
| | 48 463 | 4505·73 | ·00 | 5089·20 | ·00 | +·23 | +·24 | 17 | 5824·42 | ·00 | 5142·01 | ·00 | +·03 | +·03 |
| | 47 450 | 5017·76 | ·00 | 2943·78 | ·00 | −·09 | +·49 | | | | | | | |
| | 48 470 | 5120·82 | ·00 | 7062·60 | ·00 | −·29 | −·66 | | | | | Mean | +·03 | −·02 |
| | 48 477 | 6154·52 | ·00 | 5787·91 | ·00 | +·24 | −·22 | | | | | | | |
| | 47 460 | 6355·93 | ·00 | 4057·55 | ·00 | −·25 | +·12 | | | | | | | |
| | 47 463 | 6584·40 | ·00 | 2593·72 | ·00 | +·17 | +·10 | | | | | | | |
| | Eros | 4158·96 | ·00 | 4472·86 | ·00 | ... | ... | | | | | | | |
| December 7 | 47 434 | 3054·08 | −·01 | 2885·35 | −·01 | +·44 | +·11 | 1 | 2584·69 | −·01 | 3426·53 | −·01 | −·04 | +·29 |
| 5283 | 48 453 | 3105·06 | −·01 | 6225·24 | −·01 | −·37 | +·03 | 2 | 3045·14 | −·01 | 6028·03 | ·00 | −·38 | +·11 |
| | 48 454 | 3410·12 | ·00 | 5127·58 | ·00 | +·22 | ·00 | 3 | 3073·21 | −·01 | 2893·63 | −·01 | −·01 | +·02 |
| | 48 455 | 3410·34 | ·00 | 4217·20 | ·00 | −·15 | −·21 | 7 | 4047·58 | ·00 | 3801·42 | ·00 | ·00 | −·09 |
| | 47 442 | 3911·71 | ·00 | 2889·41 | ·00 | −·01 | −·05 | 14 | 5501·95 | −·02 | 5820·95 | −·01 | −·05 | −·07 |
| | 48 463 | 4507·14 | ·00 | 5055·56 | ·00 | +·13 | +·24 | 17 | 5825·88 | −·01 | 5097·82 | −·01 | −·03 | +·05 |
| | 47 450 | 5002·58 | ·00 | 2906·67 | ·00 | −·08 | +·14 | | | | | | | |
| | 48 470 | 5137·20 | −·02 | 7023·58 | −·02 | −·44 | −·45 | | | | | Mean | −·09 | +·05 |
| | 48 477 | 6160·63 | −·02 | 5741·02 | −·02 | +·36 | −·22 | | | | | | | |
| | 47 460 | 6348·75 | −·01 | 4009·08 | −·01 | −·08 | +·34 | | | | | | | |
| | 47 463 | 6566·30 | −·02 | 2543·85 | −·01 | +·06 | +·09 | | | | | | | |
| | Eros | 4171·96 | ·00 | 4126·14 | ·00 | ... | ... | | | | | | | |
| December 9 | 47 429 | 2404·47 | ·00 | 3695·97 | ·00 | −·44 | +·33 | 1 | 2137·87 | +·01 | 6112·42 | −·01 | ·00 | −·22 |
| 5285 | 46 373 | 2539·39 | ·00 | 2508·10 | ·00 | −·21 | +·08 | 47° 429 | 2404·47 | ·00 | 3695·97 | ·00 | −·09 | +·05 |
| | 47 434 | 2606·37 | +·01 | 5570·10 | ·00 | +·31 | −·23 | 3 | 2625·30 | +·01 | 5578·34 | ·00 | +·09 | −·28 |
| | 48 455 | 2965·27 | +·01 | 6901·37 | −·01 | ·00 | −·32 | 6 | 3354·62 | ·00 | 3074·03 | ·00 | +·02 | +·03 |
| | 47 442 | 3463·79 | ·00 | 5572·61 | ·00 | +·24 | −·39 | 47° 442 | 3463·79 | ·00 | 5572·61 | ·00 | +·15 | −·21 |
| | 47 450 | 4554·94 | ·00 | 5587·51 | ·00 | +·12 | +·21 | 47° 450 | 4554·94 | ·00 | 5587·51 | ·00 | +·14 | +·02 |
| | 47 460 | 5904·23 | +·01 | 6687·71 | ·00 | −·24 | +·35 | 10 | 4584·27 | ·00 | 3822·12 | ·00 | +·10 | −·05 |
| | 46 397 | 5929·42 | +·01 | 1654·39 | −·01 | +·05 | −·13 | | | | | | | |
| | 47 462 | 6050·73 | ·00 | 4348·26 | ·00 | −·11 | +·12 | | | | | Mean | +·06 | −·09 |
| | 47 463 | 6117·99 | ·00 | 5221·96 | ·00 | +·30 | +·02 | | | | | | | |
| | Eros | 4104·14 | ·00 | 4567·35 | ·00 | ... | ... | | | | | | | |
| December 9 | 47 429 | 2417·91 | −·01 | 3732·62 | ·00 | −·24 | +·30 | 1 | 2151·75 | −·01 | 6149·02 | ·00 | −·07 | −·19 |
| 5286 | 46 373 | 2552·99 | −·01 | 2544·75 | −·01 | −·24 | +·04 | 47° 429 | 2417·91 | −·01 | 3732·62 | ·00 | +·11 | +·02 |
| | 47 434 | 2620·00 | −·01 | 5606·56 | ·00 | +·42 | −·17 | 3 | 2639·07 | −·01 | 5614·76 | ·00 | +·06 | −·19 |
| | 48 455 | 2979·22 | −·01 | 6937·75 | ·00 | −·14 | −·32 | 6 | 3368·27 | ·00 | 3110·44 | ·00 | −·07 | ·00 |
| | 47 442 | 3477·58 | ·00 | 5608·79 | ·00 | +·15 | −·30 | 47° 442 | 3477·58 | ·00 | 5608·79 | ·00 | +·06 | −·12 |
| | 47 450 | 4568·71 | ·00 | 5623·44 | ·00 | −·03 | +·25 | 47° 450 | 4568·71 | ·00 | 5623·44 | ·00 | −·01 | +·06 |
| | 47 460 | 5917·69 | −·02 | 6723·25 | −·01 | −·09 | +·36 | 10 | 4598·03 | ·00 | 3857·96 | ·00 | −·13 | +·13 |
| | 46 397 | 5942·75 | −·01 | 1690·45 | ·00 | +·03 | −·50 | | | | | | | |
| | 47 462 | 6064·19 | −·01 | 4383·68 | ·00 | −·11 | +·28 | | | | | Mean | −·01 | −·04 |
| | 47 463 | 6131·59 | −·01 | 5257·46 | −·01 | +·20 | +·06 | | | | | | | |
| | Eros | 4172·77 | ·00 | 4192·67 | ·00 | ... | ... | | | | | | | |

* Not used in forming the finally adopted values of *c.* and *f.* (Table IV.), the star being more than 55′ from the centre of the plate.

† Not used in forming the Mean Correction for Comparison Stars (Table X.), the star being more than 25′ from the centre of the plate.

The number given in column 9 is the reference number assigned to the comparison stars in Tables VIII. and IX.

TABLE II.—Measured Co-ordinates and Residuals, Astrographic 13-inch Refractor.

| Date and Plate No. | Reference Stars. | | | | | | | Comparison Stars. | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | No. in B.D. | x. | Refraction Correction applied. | y. | Refraction Correction applied. | Residuals C—O. | | No. | x. | Refraction Correction applied. | y. | Refraction Correction applied. | Residuals. | |
| | | | | | | x. | y. | | | | | | x. | y. |
| | ° | ″ | ″ | ″ | ″ | ″ | ″ | | ″ | ″ | ″ | ″ | ″ | ″ |
| 1900.<br>December 10<br>5287 | 46 370 | 1220·44 | ·00 | 3295·47 | ·00 | −·55 | +·23 | 4 | 1903·77 | ·00 | 5281·04 | ·00 | ... | ... |
| | 47 429 | 1551·01 | ·00 | 6494·18 | ·00 | −·34* | +·38* | 6 | 2498·55 | ·00 | 5867·87 | ·00 | +·03 | −·04 |
| | 46 373 | 1680·68 | ·00 | 5305·84 | ·00 | −·10 | −·10 | 10 | 3731·82 | ·00 | 6610·26 | ·00 | +·03 | −·07 |
| | 45 379 | 3976·85 | ·00 | 1545·86 | ·00 | +·46 | −·27 | 16 | 4546·77 | ·00 | 4605·94 | ·00 | ... | ... |
| | 46 389 | 4572·25 | ·00 | 2871·74 | ·00 | +·46 | +·33 | | | | | | | |
| | 46 393 | 4869·57 | ·00 | 3673·07 | ·00 | −·45 | −·24 | | | | | Mean | (+·03) | −·06) |
| | 46 397 | 5066·91 | ·00 | 4436·44 | ·00 | +·16 | −·18 | | | | | | | |
| | 47 462 | 5200·69 | ·00 | 7129·61 | ·00 | +·10 | +·20 | | | | | | | |
| | 46 404 | 5632·23 | ·00 | 3082·97 | ·00 | −·15 | −·10 | | | | | | | |
| | 45 398 | 6368·67 | ·00 | 1215·55 | ·00 | +·39* | −·22* | | | | | | | |
| | Eros | 3577·59 | ·00 | 5818·41 | ·00 | ... | ... | | | | | | | |
| December 13<br>5288 | 45 376 | 2788·26 | ·00 | 2504·44 | ·00 | −·16 | +·05 | 12 | 3162·26 | ·00 | 2816·15 | ·00 | +·09 | +·11 |
| | 45 379 | 3146·74 | ·00 | 4482·09 | ·00 | +·66 | −·01 | 15 | 3577·83 | ·00 | 5357·92 | ·00 | −·01 | +·10 |
| | 44 326 | 3173·59 | ·00 | 1131·01 | ·00 | +·05 | −·06 | 18 | 3886·19 | ·00 | 2747·55 | ·00 | −·06 | +·33 |
| | 45 383 | 3580·30 | ·00 | 1971·92 | ·00 | +·57 | +·04 | 19 | 3965·81 | ·00 | 1327·88 | ·00 | +·23† | +·04† |
| | 46 389 | 3748·39 | ·00 | 5805·55 | ·00 | +·30 | +·26 | 20 | 4332·14 | ·00 | 5703·81 | ·00 | +·16 | +·02 |
| | 46 393 | 4049·49 | ·00 | 6605·42 | ·00 | −·80 | −·11 | 22 | 5383·97 | ·00 | 4402·23 | ·00 | −·10 | +·10 |
| | 46 397 | 4250·12 | ·00 | 7368·05 | ·00 | −·03 | −·10 | 24 | 5622·81 | ·00 | 3874·69 | ·00 | +·12 | ·00 |
| | 46 404 | 4809·40 | ·00 | 6012·20 | ·00 | −·41 | −·33 | 31 | 6612·82 | ·00 | 2952·78 | ·00 | +·13† | +·14† |
| | 45 392 | 4821·18 | ·00 | 4249·31 | ·00 | +·04 | +·16 | | | | | | | |
| | 45 394 | 4944·38 | ·00 | 2442·82 | ·00 | −·11 | +·16 | | | | | Mean | +·03 | +·11 |
| | 44 337 | 5533·91 | ·00 | 1390·06 | ·00 | −·02 | −·08 | | | | | | | |
| | 45 398 | 5537·39 | ·00 | 4141·29 | ·00 | −·06 | −·04 | | | | | | | |
| | 45 416 | 7421·53 | ·00 | 4117·06 | ·00 | +·03 | +·04 | | | | | | | |
| | Eros | 4069·30 | ·00 | 4520·95 | ·00 | ... | ... | | | | | | | |
| December 13<br>5289 | 45 376 | 2793·01 | ·00 | 2505·70 | ·00 | −·22 | +·08 | 12 | 3167·00 | ·00 | 2817·66 | ·00 | −·06 | +·02 |
| | 45 379 | 3151·00 | ·00 | 4483·50 | ·00 | +·33 | ·00 | 15 | 3581·42 | ·00 | 5359·50 | ·00 | +·02 | +·10 |
| | 44 326 | 3178·93 | ·00 | 1132·59 | ·00 | −·06 | −·22 | 18 | 3890·96 | ·00 | 2749·62 | ·00 | −·22 | −·05 |
| | 45 383 | 3585·30 | ·00 | 1973·59 | ·00 | +·47 | −·05 | 19 | 3971·19 | ·00 | 1329·58 | ·00 | ·00† | +·06† |
| | 46 389 | 3751·71 | ·00 | 5807·11 | ·00 | +·41 | +·34 | 20 | 4335·80 | ·00 | 5705·71 | ·00 | ·00 | −·02 |
| | 46 393 | 4052·37 | ·00 | 6607·13 | ·00 | −·54 | −·07 | 22 | 5387·70 | ·00 | 4404·55 | ·00 | +·16 | +·02 |
| | 46 397 | 4252·88 | ·00 | 7369·90 | ·00 | +·08 | −·11 | 24 | 5626·86 | ·00 | 3876·97 | ·00 | +·28 | +·05 |
| | 46 404 | 4812·90 | ·00 | 6014·11 | ·00 | −·53 | −·21 | 31 | 6617·38 | ·00 | 2955·60 | ·00 | +·14† | +·03† |
| | 45 392 | 4825·15 | ·00 | 4251·29 | ·00 | +·13 | +·23 | | | | | | | |
| | 45 394 | 4949·08 | ·00 | 2444·85 | ·00 | −·07 | +·22 | | | | | Mean | +·03 | +·02 |
| | 44 337 | 5538·96 | ·00 | 1392·51 | ·00 | +·09 | −·22 | | | | | | | |
| | 45 398 | 5541·50 | ·00 | 4143·56 | ·00 | −·08 | −·01 | | | | | | | |
| | 45 416 | 7425·75 | ·00 | 4120·10 | ·00 | −·06 | +·01 | | | | | | | |
| | Eros | 4079·92 | ·00 | 4501·50 | ·00 | ... | ... | | | | | | | |
| December 13<br>5290 | 45 376 | 2792·58 | ·00 | 2507·30 | ·00 | −·15 | +·09 | 12 | 3166·64 | ·00 | 2819·36 | ·00 | +·03 | −·19 |
| | 45 379 | 3151·13 | ·00 | 4484·91 | ·00 | +·47 | +·08 | 15 | 3582·06 | ·00 | 5360·99 | ·00 | −·07 | −·05 |
| | 44 326 | 3178·16 | ·00 | 1134·01 | ·00 | −·11 | −·15 | 18 | 3890·67 | ·00 | 2750·91 | ·00 | −·22 | −·10 |
| | 45 383 | 3584·78 | ·00 | 1974·96 | ·00 | +·45 | −·07 | 19 | 3970·52 | ·00 | 1330·89 | ·00 | −·06† | −·04† |
| | 46 389 | 3752·35 | ·00 | 5808·43 | ·00 | +·45 | +·31 | 20 | 4336·42 | ·00 | 5706·80 | ·00 | +·03 | ·00 |
| | 46 393 | 4053·43 | ·00 | 6608·39 | ·00 | −·66 | −·14 | 22 | 5388·04 | ·00 | 4405·36 | ·00 | +·07 | −·02 |

---

* Not used in forming the finally adopted values of *c.* and *f.* (Table IV.), the star being more than 55′ from the centre of the plate.

† Not used in forming the Mean Correction for Comparison Stars (Table X.), the star being more than 25′ from the centre of the plate.

The number given in column 9 is the reference number assigned to the comparison stars in Tables VIII. and IX.

TABLE II.—Measured Co-ordinates and Residuals, Astrographic 13-inch Refractor.

| Date and Plate No. | Reference Stars. | | | | | | | Comparison Stars. | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | No. in B.D. | x. | Refraction Correction applied. | y. | Refraction Correction applied. | Residuals C—O. | | No. | x. | Refraction Correction applied. | y. | Refraction Correction applied. | Residuals. | |
| | | | | | | x. | y. | | | | | | x. | y. |
| | • | " | " | " | " | " | " | | " | " | " | " | " | " |
| 1900. December 13 5290—*contd.* | 46 397 | 4254·10 | ·00 | 7371·00 | ·00 | +·05 | −·09 | 24 | 5627·13 | ·00 | 3877·58 | ·00 | +·07 | +·12 |
| | 46 404 | 4813·62 | ·00 | 6015·02 | ·00 | −·49 | −·18 | 31 | 6617·22 | ·00 | 2956·09 | ·00 | +·07† | −·11† |
| | 45 392 | 4825·52 | ·00 | 4252·20 | ·00 | −·06 | +·25 | | | | | | | |
| | 45 394 | 4948·67 | ·00 | 2445·80 | ·00 | −·05 | +·16 | | | | | Mean | +·02 | −·04 |
| | 44 337 | 5538·19 | ·00 | 1393·32 | ·00 | +·14 | −·33 | | | | | | | |
| | 45 398 | 5541·63 | ·00 | 4144·25 | ·00 | −·05 | ·00 | | | | | | | |
| | 45 416 | 7425·79 | ·00 | 4120·14 | ·00 | +·05 | +·04 | | | | | | | |
| | Eros | 4087·47 | ·00 | 4478·92 | ·00 | ... | ... | | | | | | | |
| December 13 5294 | 45 376 | 2797·42 | −·02 | 2525·89 | −·01 | −·21 | −·17 | 12 | 3172·30 | −·01 | 2836·25 | −·01 | +·13 | −·15 |
| | 45 379 | 3162·66 | ·00 | 4501·84 | ·00 | +·30 | −·07 | 15 | 3596·15 | ·00 | 5376·20 | ·00 | +·05 | −·13 |
| | 44 326 | 3178·03 | −·02 | 1151·27 | −·02 | +·13 | −·34 | 18 | 3895·53 | ·00 | 2765·23 | ·00 | +·29 | −·11 |
| | 45 383 | 3587·34 | −·01 | 1990·54 | −·01 | +·74 | −·15 | 19 | 3970·76 | −·01 | 1345·09 | −·02 | +·26† | −·06† |
| | 46 389 | 3768·16 | ·00 | 5822·78 | ·00 | +·34 | +·41 | 20 | 4351·77 | ·00 | 5719·07 | ·00 | −·12 | +·06 |
| | 46 393 | 4071·90 | −·01 | 6621·71 | −·01 | −·82 | −·21 | 22 | 5398·64 | ·00 | 4413·77 | ·00 | +·05 | +·20 |
| | 46 397 | 4275·09 | −·02 | 7383·23 | −·02 | −·12 | +·13 | 24 | 5635·66 | −·01 | 3885·39 | ·00 | +·31 | +·16 |
| | 46 404 | 4829·73 | −·01 | 6025·55 | −·01 | −·47 | −·15 | 31 | 6622·40 | −·02 | 2960·30 | −·01 | +·32† | +·03† |
| | 45 392 | 4835·80 | ·00 | 4262·92 | ·00 | −·12 | +·25 | | | | | | | |
| | 45 394 | 4952·74 | ·00 | 2456·36 | ·00 | −·01 | +·09 | | | | | Mean | +·12 | +·01 |
| | 44 337 | 5538·33 | −·01 | 1401·57 | −·01 | +·43 | −·13 | | | | | | | |
| | 45 398 | 5551·40 | −·01 | 4152·29 | ·00 | −·14 | +·09 | | | | | | | |
| | 45 416 | 7435·02 | −·04 | 4121·24 | −·02 | ·00 | +·19 | | | | | | | |
| | Eros | 4198·20 | ·00 | 4172·84 | ·00 | ... | ... | | | | | | | |
| December 13 5297 | 45 376 | 2800·07 | −·03 | 2529·73 | −·03 | −·15 | +·03 | 12 | 3174·89 | −·02 | 2839·59 | −·02 | +·29 | +·19 |
| | 45 379 | 3166·21 | ·00 | 4505·14 | ·00 | +·15 | −·05 | 19 | 3973·00 | −·03 | 1348·65 | −·04 | +·04† | −·27† |
| | 44 326 | 3180·13 | −·05 | 1154·91 | −·05 | +·10 | +·07 | 20 | 4355·34 | −·01 | 5721·30 | −·01 | −·04 | −·08 |
| | 45 383 | 3590·03 | −·03 | 1993·84 | −·03 | +·38 | +·08 | 22 | 5401·82 | −·01 | 4415·79 | −·01 | −·16 | −·30 |
| | 46 389 | 3771·83 | −·01 | 5825·47 | −·01 | +·47 | +·25 | 24 | 5638·86 | −·01 | 3886·95 | ·00 | −·19 | +·05 |
| | 46 393 | 4075·85 | −·02 | 6623·71 | −·02 | −·72 | −·10 | 31 | 6625·07 | −·02 | 2961·41 | −·01 | −·18† | −·24† |
| | 46 397 | 4279·09 | −·03 | 7385·29 | −·05 | +·19 | −·17 | | | | | | | |
| | 46 404 | 4833·28 | −·02 | 6027·36 | −·02 | −·36 | −·33 | | | | | Mean | −·03 | −·04 |
| | 45 392 | 4838·76 | ·00 | 4265·05 | ·00 | −·09 | +·13 | | | | | | | |
| | 45 394 | 4954·99 | −·01 | 2458·68 | −·01 | +·01 | +·08 | | | | | | | |
| | 44 337 | 5540·30 | −·02 | 1403·55 | −·02 | +·21 | −·03 | | | | | | | |
| | 45 398 | 5554·19 | −·01 | 4153·84 | −·01 | −·11 | −·01 | | | | | | | |
| | 45 416 | 7437·55 | −·06 | 4121·30 | −·04 | −·07 | +·08 | | | | | | | |
| | Eros | 4232·97 | ·00 | 4085·95 | ·00 | ... | ... | | | | | | | |
| December 15 5299 | 45 376 | 1506·50 | +·01 | 5421·60 | −·01 | −·04 | −·24 | 12 | 1882·57 | +·01 | 5730·88 | −·01 | −·02† | +·10† |
| | 44 326 | 1883·95 | +·01 | 4046·12 | ·00 | +·16 | −·40 | 18 | 2606·10 | +·01 | 5658·13 | ·00 | −·13 | +·24 |
| | 45 383 | 2295·67 | +·01 | 4884·35 | ·00 | +·49 | −·12 | 19 | 2677·61 | ·00 | 4238·12 | ·00 | +·03 | −·04 |
| | 44 329 | 2311·73 | +·01 | 1632·66 | ·00 | −·31 | +·08 | 24 | 4349·45 | ·00 | 6775·16 | ·00 | −·09† | −·07† |
| | 45 392 | 3550·01 | +·01 | 7154·41 | −·01 | −·22 | +·20 | 25 | 4504·24 | ·00 | 2555·00 | ·00 | −·07 | +·31 |
| | 45 394 | 3662·15 | ·00 | 5347·17 | ·00 | +·09 | +·14 | 31 | 5334·10 | ·00 | 5847·67 | ·00 | −·29 | −·10 |
| | 44 335 | 4077·42 | +·01 | 1241·75 | −·01 | +·35 | +·09 | 33 | 5600·20 | ·00 | 4980·01 | ·00 | −·09 | −·11 |
| | 44 337 | 4245·55 | ·00 | 4290·95 | ·00 | +·03 | +·11 | 34 | 5662·60 | ·00 | 3215·09 | ·00 | −·28 | +·07 |
| | 45 398 | 4265·63 | +·01 | 7042·21 | −·01 | −·36 | −·03 | | | | | | | |
| | 44 347 | 5822·66 | +·01 | 1984·79 | −·01 | −·23 | +·03 | | | | | Mean | −·14 | +·06 |
| | 44 352 | 6474·72 | +·01 | 4001·51 | ·00 | −·28 | −·02 | | | | | | | |
| | 45 422 | 6805·46 | +·01 | 5678·68 | ·00 | +·34 | +·12 | | | | | | | |
| | Eros | 3975·64 | ·00 | 4599·23 | ·00 | ... | ... | | | | | | | |

* Not used in forming the finally adopted values of *c.* and *f.* (Table IV.), the star being more than 55′ from the centre of the plate.
† Not used in forming the Mean Correction for Comparison Stars (Table X.), the star being more than 25′ from the centre of the plate.
The number given in column 9 is the reference number assigned to the comparison stars in Tables VIII. and IX.

TABLE II.—Measured Co-ordinates and Residuals, Astrographic 13-inch Refractor.

| Date and Plate No. | Reference Stars. No. in B.D. | Reference Stars. x. | Reference Stars. Refraction Correction applied. | Reference Stars. y. | Reference Stars. Refraction Correction applied. | Reference Stars. Residuals C—O. x. | Reference Stars. Residuals C—O. y. | Comparison Stars. No. | Comparison Stars. x. | Comparison Stars. Refraction Correction applied. | Comparison Stars. y. | Comparison Stars. Refraction Correction applied. | Comparison Stars. Residuals. x. | Comparison Stars. Residuals. y. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1900. | ° | ″ | ″ | ″ | ″ | ″ | ″ | | ″ | ″ | ″ | ″ | ″ | ″ |
| December 15 | 45 376 | 1510·56 | ·00 | 5419·04 | ·00 | −·12 | +·03 | 12 | 1887·28 | ·00 | 5728·02 | ·00 | −·36† | +·22† |
| 5300 | 44 326 | 1886·63 | ·00 | 4043·31 | ·00 | −·15 | −·36 | 18 | 2610·45 | ·00 | 5654·71 | ·00 | −·17 | +·02 |
| | 45 383 | 2299·27 | ·00 | 4881·09 | ·00 | +·27 | −·12 | 19 | 2680·54 | ·00 | 4234·34 | ·00 | −·28 | −·01 |
| | 44 329 | 2311·32 | ·00 | 1629·45 | ·00 | −·39 | −·03 | 24 | 4355·11 | ·00 | 6769·26 | ·00 | −·05† | +·02† |
| | 45 392 | 3556·06 | ·00 | 7149·63 | ·00 | −·13 | +·19 | 25 | 4504·91 | ·00 | 2549·08 | ·00 | −·05 | +·20 |
| | 45 394 | 3666·29 | ·00 | 5342·25 | ·00 | −·06 | +·09 | 31 | 5338·57 | ·00 | 5840·39 | ·00 | −·12 | +·14 |
| | 44 335 | 4076·49 | ·00 | 1236·34 | ·00 | +·39 | +·01 | 33 | 5603·66 | ·00 | 4972·57 | ·00 | +·07 | −·04 |
| | 44 337 | 4248·33 | ·00 | 4285·28 | ·00 | −·01 | +·10 | 34 | 5663·83 | ·00 | 3207·62 | ·00 | ·00 | +·07 |
| | 45 398 | 4271·49 | ·00 | 7036·44 | ·00 | −·20 | +·05 | | | | | | | |
| | 44 347 | 5822·64 | ·00 | 1977·29 | ·00 | −·15 | −·14 | | | | | Mean | −·09 | +·06 |
| | 44 352 | 6476·89 | ·00 | 3993·10 | ·00 | +·04 | −·08 | | | | | | | |
| | 45 422 | 6809·85 | ·00 | 5669·64 | ·00 | +·45 | +·30 | | | | | | | |
| | Eros | 3989·13 | ·00 | 4569·44 | ·00 | … | … | | | | | | | |
| December 15 | 45 376 | 1524·72 | −·02 | 5468·23 | ·00 | −·14 | −·21 | 12 | 1900·71 | −·01 | 5777·60 | ·00 | −·02† | −·15† |
| 5304 | 44 326 | 1902·02 | −·02 | 4092·64 | ·00 | −·06 | −·36 | 18 | 2624·01 | −·01 | 5704·72 | ·00 | −·01 | −·18 |
| | 45 383 | 2313·77 | −·01 | 4930·70 | ·00 | +·34 | −·12 | 19 | 2695·49 | −·01 | 4284·16 | ·00 | −·06 | +·12 |
| | 44 329 | 2328·81 | −·02 | 1679·20 | −·02 | +·01 | +·04 | 24 | 4367·67 | −·01 | 6820·55 | −·01 | −·28† | −·09† |
| | 45 392 | 3568·29 | −·01 | 7200·28 | −·01 | −·30 | +·04 | 25 | 4521·43 | ·00 | 2600·73 | ·00 | +·05 | +·09 |
| | 45 394 | 3680·14 | ·00 | 5392·93 | ·00 | −·03 | +·11 | 31 | 5351·73 | −·01 | 5892·45 | −·01 | −·15 | +·10 |
| | 44 335 | 4094·28 | −·01 | 1287·82 | −·01 | +·63 | −·21 | 33 | 5617·75 | −·01 | 5024·64 | ·00 | −·04 | +·17 |
| | 44 337 | 4263·31 | ·00 | 4336·38 | ·00 | −·11 | +·22 | 34 | 5679·67 | −·01 | 3259·81 | ·00 | −·06 | +·32 |
| | 45 398 | 4283·81 | −·01 | 7087·65 | −·01 | −·45 | −·08 | | | | | | | |
| | 44 347 | 5839·59 | −·01 | 2029·80 | ·00 | −·09 | −·01 | | | | | Mean | −·05 | +·10 |
| | 44 352 | 6491·99 | −·01 | 4045·86 | ·00 | −·20 | +·22 | | | | | | | |
| | 45 422 | 6822·93 | −·03 | 5722·78 | −·01 | +·45 | +·38 | | | | | | | |
| | Eros | 4164·48 | ·00 | 4216·37 | ·00 | … | … | | | | | | | |
| December 15 | 45 376 | 1520·07 | −·02 | 5465·83 | −·01 | −·27 | −·06 | 12 | 1895·88 | −·02 | 5775·05 | −·01 | −·07† | +·05† |
| 5306 | 44 326 | 1897·30 | −·02 | 4090·45 | −·01 | +·02 | −·27 | 18 | 2618·90 | −·01 | 5702·04 | ·00 | +·13 | +·04 |
| | 45 383 | 2308·97 | −·01 | 4928·32 | −·01 | +·32 | −·04 | 19 | 2690·86 | −·01 | 4281·93 | ·00 | −·22 | +·07 |
| | 44 329 | 2324·66 | −·05 | 1677·26 | −·05 | −·22 | +·16 | 24 | 4362·08 | −·02 | 6817·54 | −·02 | −·08† | −·04† |
| | 45 392 | 3562·91 | −·02 | 7197·22 | −·02 | −·25 | +·22 | 25 | 4516·71 | −·01 | 2598·46 | −·01 | −·06 | +·01 |
| | 45 394 | 3675·21 | ·00 | 5390·43 | ·00 | −·18 | −·01 | 31 | 5346·21 | −·02 | 5889·54 | −·02 | −·03 | +·01 |
| | 44 335 | 4089·88 | −·02 | 1285·62 | −·03 | +·45 | −·09 | 33 | 5612·39 | −·01 | 5021·84 | −·01 | −·01 | +·06 |
| | 44 337 | 4258·34 | ·00 | 4333·97 | ·00 | −·18 | +·06 | 34 | 5674·60 | −·01 | 3257·35 | ·00 | −·09 | +·12 |
| | 45 398 | 4278·25 | −·02 | 7084·69 | −·03 | −·31 | −·11 | | | | | | | |
| | 44 347 | 5834·75 | −·01 | 2027·49 | −·01 | −·19 | −·20 | | | | | Mean | −·05 | +·05 |
| | 44 352 | 6486·38 | −·02 | 4043·21 | −·01 | +·09 | −·06 | | | | | | | |
| | 45 422 | 6817·10 | −·05 | 5719·52 | −·04 | +·67 | +·41 | | | | | | | |
| | Eros | 4199·26 | ·00 | 4121·27 | ·00 | … | … | | | | | | | |
| December 15 | 45 376 | 1533·17 | −·03 | 5502·35 | −·01 | −·17 | −·36 | 12 | 1910·64 | −·02 | 5809·38 | −·01 | −·03† | −·17† |
| 5307 | 44 326 | 1903·52 | −·03 | 4124·81 | −·02 | −·34 | −·28 | 18 | 2633·10 | −·01 | 5732·39 | −·01 | +·27 | −·16 |
| | 44 329 | 2317·64 | −·07 | 1709·35 | −·07 | −·13 | (+·43) | 19 | 2697·44 | −·01 | 4311·88 | −·01 | +·02 | +·11 |
| | 45 383 | 2319·33 | −·01 | 4960·18 | −·01 | +·23 | +·07 | 24 | 4382·15 | −·03 | 6838·11 | −·03 | −·08† | −·17† |
| | 45 392 | 3585·07 | −·02 | 7222·16 | −·03 | −·26 | +·05 | 25 | 4514·41 | −·01 | 2618·69 | −·01 | −·03 | −·02 |
| | 45 394 | 3687·93 | ·00 | 5414·81 | ·00 | −·33 | +·02 | 31 | 5361·13 | −·02 | 5904·74 | −·03 | +·09 | −·01 |

* Not used in forming the finally adopted values of *c.* and *f.* (Table IV.), the star being more than 55′ from the centre of the plate.

† Not used in forming the Mean Correction for Comparison Stars (Table X.), the star being more than 25′ from the centre of the plate.

The number given in column 9 is the reference number assigned to the comparison stars in Tables VIII. and IX.

TABLE II.—Measured Co-ordinates and Residuals, Astrographic 13-inch Refractor.

| Date and Plate No. | Reference Stars. | | | | | | | Comparison Stars. | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | No. in B.D. | x. | Refraction Correction applied. | y. | Refraction Correction applied. | Residuals C—O. x. | Residuals C—O. y. | No. | x. | Refraction Correction applied. | y. | Refraction Correction applied. | Residuals. x. | Residuals. y. |
| 1900. | | ″ | ″ | ″ | ″ | ″ | ″ | | ″ | ″ | ″ | ″ | ″ | ″ |
| December 15<br>5307—*contd.* | 44 335 | 4080·61 | −·03 | 1308·25 | −·04 | +·53 | +·02 | 33 | 5622·70 | −·02 | 5035·75 | −·01 | +·11 | −·02 |
| | 44 337 | 4265·26 | ·00 | 4355·19 | ·00 | −·16 | +·22 | 34 | 5675·68 | −·01 | 3271·24 | ·00 | −·07 | ·00 |
| | 45 398 | 4299·62 | −·03 | 7105·58 | −·04 | −·19 | −·14 | | | | | | | |
| | 44 347 | 5829·32 | −·01 | 2040·65 | −·01 | −·20 | −·29 | | | | | Mean | +·07 | −·02 |
| | 44 352 | 6491·48 | −·03 | 4052·43 | −·02 | +·14 | −·07 | | | | | | | |
| | 45 422 | 6830·94 | −·06 | 5726·77 | −·05 | +·83 | +·31 | | | | | | | |
| | Eros | 4219·39 | ·00 | 4111·02 | ·00 | … | … | | | | | | | |
| December 16<br>5308 | 44 326 | 1165·45 | +·01 | 5545·72 | −·01 | −·13 | −·42 | 19 | 1959·47 | +·01 | 5734·98 | −·01 | +·08 | −·01 |
| | 45 383 | 1579·86 | +·02 | 6382·49 | −·01 | +·31 | +·01 | 44 335 | 3349·07 | ·00 | 2734·07 | ·00 | +·11 | +·06 |
| | 44 329 | 1584·86 | +·01 | 3131·06 | ·00 | −·22 | −·17 | 25 | 3780·35 | ·00 | 4046·08 | ·00 | +·13 | −·11 |
| | 45 394 | 2948·01 | +·01 | 6840·79 | −·01 | −·16 | +·12 | 33 | 4884·62 | ·00 | 6466·83 | ·00 | +·06 | −·03 |
| | 44 335 | 3349·07 | ·00 | 2734·07 | ·00 | +·56 | −·01 | 34 | 4940·76 | ·00 | 4701·89 | ·00 | +·07 | −·08 |
| | 44 337 | 3527·78 | ·00 | 5782·38 | ·00 | −·03 | +·16 | 42 | 6458·03 | +·01 | 3444·24 | ·00 | −·10 | +·02 |
| | 43 343 | 4163·64 | +·01 | 1178·32 | −·01 | −·19 | +·42 | | | | | | | |
| | 44 346 | 5070·13 | ·00 | 2611·03 | ·00 | +·15 | +·13 | | | | | Mean | +·06 | −·03 |
| | 44 347 | 5096·85 | ·00 | 3471·13 | ·00 | −·18 | −·13 | | | | | | | |
| | 44 352 | 5755·78 | ·00 | 5485·57 | ·00 | −·15 | −·27 | | | | | | | |
| | 45 422 | 6092·33 | +·01 | 7161·36 | ·00 | +·46 | +·22 | | | | | | | |
| | 44 354 | 6617·58 | +·01 | 4579·78 | ·00 | −·36 | −·10 | | | | | | | |
| | Eros | 3973·45 | ·00 | 4594·57 | ·00 | … | … | | | | | | | |
| December 17<br>5309 | 44 329 | 782·18 | +·02 | 4634·47 | −·01 | −·31* | −·15* | 25 | 2981·69 | ·00 | 5540·21 | ·00 | −·09 | −·24 |
| | 44 335 | 2544·80 | ·00 | 4230·17 | ·00 | +·48 | −·18 | 29 | 3639·59 | ·00 | 3073·38 | ·00 | +·10 | ·00 |
| | 44 337 | 2736·65 | +·01 | 7277·52 | −·01 | −·27 | +·35 | 34 | 4144·70 | ·00 | 6191·07 | ·00 | +·08 | −·20 |
| | 44 341 | 2832·07 | +·01 | 6324·46 | −·01 | −·08 | +·07 | 35 | 4571·90 | ·00 | 6027·36 | ·00 | −·03 | −·03 |
| | 43 337 | 2899·22 | +·01 | 1802·52 | ·00 | +·11 | +·06 | 41 | 5416·29 | ·00 | 3384·23 | ·00 | −·08 | +·11 |
| | 43 341 | 3228·04 | +·01 | 1404·97 | ·00 | +·30 | −·07 | 42 | 5656·46 | ·00 | 4926·86 | ·00 | −·04 | +·03 |
| | 43 343 | 3352·45 | ·00 | 2671·24 | ·00 | −·01 | +·15 | | | | | | | |
| | 44 346 | 4264·90 | ·00 | 4099·82 | ·00 | +·46 | −·05 | | | | | Mean | −·01 | −·06 |
| | 44 347 | 4295·39 | ·00 | 4959·59 | ·00 | +·07 | −·14 | | | | | | | |
| | 44 352 | 4963·27 | +·01 | 6971·11 | ·00 | −·18 | −·12 | | | | | | | |
| | 44 354 | 5820·88 | +·01 | 6061·52 | ·00 | −·14 | +·10 | | | | | | | |
| | 43 364 | 7824·02 | +·02 | 3661·74 | −·01 | (−·46*) | +·01* | | | | | | | |
| | Eros | 3947·61 | ·00 | 4602·92 | ·00 | … | … | | | | | | | |
| December 17<br>5310 | 44 329 | 786·17 | +·01 | 4630·58 | ·00 | −·35* | −·09* | 25 | 2984·86 | ·00 | 5538·22 | ·00 | −·07 | −·10 |
| | 44 335 | 2549·27 | ·00 | 4227·79 | ·00 | +·36 | −·07 | 29 | 3645·04 | ·00 | 3072·14 | ·00 | +·13 | −·06 |
| | 44 337 | 2738·10 | +·01 | 7275·18 | −·01 | −·18 | +·62 | 34 | 4147·05 | ·00 | 6190·19 | ·00 | +·35 | −·13 |
| | 44 341 | 2834·50 | ·00 | 6322·31 | ·00 | −·08 | +·24 | 35 | 4574·63 | ·00 | 6026·86 | ·00 | +·02 | +·04 |
| | 43 337 | 2905·88 | ·00 | 1800·79 | ·00 | +·04 | −·19 | 41 | 5421·39 | ·00 | 3384·69 | ·00 | +·05 | −·06 |
| | 43 341 | 3235·00 | ·00 | 1403·32 | ·00 | +·31 | −·11 | 42 | 5660·31 | ·00 | 4927·54 | ·00 | −·07 | −·13 |
| | 43 343 | 3358·23 | ·00 | 2669·74 | ·00 | +·01 | +·09 | | | | | | | |
| | 44 346 | 4269·48 | ·00 | 4099·08 | ·00 | +·39 | −·05 | | | | | Mean | +·07 | −·07 |
| | 44 347 | 4299·13 | ·00 | 4959·03 | ·00 | +·04 | −·28 | | | | | | | |
| | 44 352 | 4965·20 | ·00 | 6971·00 | ·00 | −·21 | −·10 | | | | | | | |
| | 44 354 | 5823·86 | ·00 | 6062·33 | ·00 | −·39 | −·04 | | | | | | | |
| | 43 364 | 7828·53 | +·01 | 3664·19 | −·01 | +·01* | −·01* | | | | | | | |
| | Eros | 3966·79 | ·00 | 4571·68 | ·00 | … | … | | | | | | | |

* Not used in forming the finally adopted values of *c.* and *f.* (Table IV.), the star being more than 55′ from the centre of the plate.
† Not used in forming the Mean Correction for Comparison Stars (Table X.), the star being more than 25′ from the centre of the plate.
The number given in column 9 is the reference number assigned to the comparison stars in Tables VIII. and IX.

TABLE II.—Measured Co-ordinates and Residuals, Astrographic 13-inch Refractor.

| Date and Plate No. | Reference Stars. | | | | | | | Comparison Stars. | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | No. in B.D. | x. | Refraction Correction applied. | y. | Refraction Correction applied. | Residuals. C—O. x. | Residuals. C—O. y. | No. | x. | Refraction Correction applied. | y. | Refraction Correction. applied. | Residuals. x. | Residuals. y. |
| 1900. | ° | ″ | ″ | ″ | ″ | ″ | ″ | | ″ | ″ | ″ | ″ | ″ | ″ |
| December 17 | 44 329 | 809·98 | ·00 | 4666·84 | ·00 | +·11* | −·04* | 25 | 3010·98 | ·00 | 5569·83 | ·00 | +·17 | −·14 |
| 5313 | 44 335 | 2572·38 | ·00 | 4260·22 | ·00 | +·71 | +·01 | 29 | 3666·03 | ·00 | 3101·93 | ·00 | +·26 | +·29 |
| | 44 337 | 2767·67 | ·00 | 7307·78 | ·00 | +·22 | +·13 | 34 | 4175·19 | ·00 | 6219·27 | ·00 | −·01 | −·14 |
| | 43 337 | 2924·41 | ·00 | 1832·25 | ·00 | −·19 | +·07 | 35 | 4602·08 | ·00 | 6055·04 | ·00 | +·01 | ·00 |
| | 43 341 | 3252·65 | ·00 | 1434·20 | ·00 | +·11 | +·01 | 41 | 5443·28 | ·00 | 3410·69 | ·00 | −·01 | +·15 |
| | 44 346 | 4292·84 | ·00 | 4127·71 | ·00 | +·26 | +·10 | 42 | 5685·18 | ·00 | 4953·10 | ·00 | +·19 | +·09 |
| | 44 347 | 4324·48 | ·00 | 4987·60 | ·00 | −·26 | −·13 | | | | | | | |
| | 44 352 | 4994·69 | ·00 | 6998·56 | ·00 | −·34 | −·37 | | | | | Mean | +·10 | +·04 |
| | 44 354 | 5851·55 | ·00 | 6087·63 | ·00 | −·62 | +·09 | | | | | | | |
| | 44 364 | 7850·96 | ·00 | 3685·14 | ·00 | −·03* | +·13* | | | | | | | |
| | Eros | 4042·74 | ·00 | 4494·08 | ·00 | ... | ... | | | | | | | |
| December 19 | 43 337 | 1072·11 | +·01 | 4840·74 | ·00 | −·27 | −·37 | 29 | 1823·36 | +·01 | 6104·82 | −·01 | −·09† | −·04† |
| 5314 | 43 341 | 1397·26 | +·01 | 4440·13 | ·00 | +·22 | −·27 | 36 | 2898·15 | ·00 | 4832·69 | ·00 | −·07 | −·11 |
| | 43 343 | 1532·52 | +·01 | 5704·77 | −·01 | −·06 | +·49 | 39 | 3127·16 | ·00 | 3808·02 | ·00 | +·25 | −·19 |
| | 44 346 | 2457·87 | +·01 | 7125·45 | −·01 | −·06 | +·37 | 41 | 3602·62 | ·00 | 6400·03 | ·00 | +·01† | +·19† |
| | 42 352 | 3277·83 | ·00 | 3011·00 | ·00 | ·00 | +·12 | 45 | 4277·54 | ·00 | 5578·32 | ·00 | +·24 | +·24 |
| | 42 354 | 3400·64 | ·00 | 781·81 | ·00 | +·33* | −·62* | 46 | 4891·71 | ·00 | 3268·30 | ·00 | −·03 | −·11 |
| | 42 356 | 4084·84 | ·00 | 3245·76 | ·00 | +·59 | −·04 | 47 | 5166·44 | ·00 | 5115·72 | ·00 | −·07 | −·14 |
| | 42 360 | 4610·55 | ·00 | 1576·18 | ·00 | −·17 | −·01 | 48 | 5723·04 | ·00 | 3877·12 | ·00 | −·03 | +·02 |
| | 42 361 | 4700·46 | ·00 | 3045·32 | ·00 | −·18 | +·20 | | | | | | | |
| | 43 364 | 6012·40 | ·00 | 6656·28 | ·00 | −·25 | +·20 | | | | | Mean | +·05 | −·05 |
| | 42 370 | 6048·20 | ·00 | 3265·94 | ·00 | −·20 | −·11 | | | | | | | |
| | Eros | 3910·62 | ·00 | 4574·23 | ·00 | ... | ... | | | | | | | |
| December 19 | 43 337 | 1080·94 | +·01 | 4839·26 | ·00 | −·04 | −·03 | 29 | 1831·32 | +·01 | 6104·19 | −·01 | +·09† | +·02† |
| 5315 | 43 341 | 1406·77 | +·01 | 4439·05 | ·00 | +·06 | −·11 | 36 | 2907·17 | ·00 | 4832·81 | ·00 | −·05 | −·07 |
| | 43 343 | 1541·32 | +·01 | 5703·84 | ·00 | (−·39) | (+·59) | 39 | 3137·23 | ·00 | 3808·31 | ·00 | −·06 | −·14 |
| | 44 346 | 2465·08 | +·01 | 7125·31 | −·01 | +·24 | +·33 | 41 | 3610·24 | ·00 | 6400·73 | ·00 | +·34† | +·16† |
| | 42 352 | 3288·30 | ·00 | 3011·39 | ·00 | −·10 | +·11 | 45 | 4286·04 | ·00 | 5579·62 | ·00 | +·28 | +·07 |
| | 42 354 | 3412·81 | ·00 | 782·15 | −·01 | +·09* | −·47* | 46 | 4901·95 | ·00 | 3269·80 | ·00 | −·13 | −·03 |
| | 42 356 | 4095·05 | ·00 | 3246·71 | ·00 | +·61 | −·04 | 47 | 5175·11 | ·00 | 5117·33 | ·00 | +·12 | +·01 |
| | 42 360 | 4621·98 | ·00 | 1577·68 | ·00 | −·21 | −·18 | 48 | 5732·62 | ·00 | 3879·41 | ·00 | +·13 | −·11 |
| | 42 361 | 4710·67 | ·00 | 3046·77 | ·00 | −·03 | +·15 | | | | | | | |
| | 43 364 | 6019·91 | ·00 | 6658·94 | ·00 | +·10 | −·17 | | | | | Mean | +·05 | −·05 |
| | 42 370 | 6058·55 | ·00 | 3268·31 | ·00 | −·32 | −·14 | | | | | | | |
| | Eros | 3930·83 | ·00 | 4556·09 | ·00 | ... | ... | | | | | | | |
| December 19 | 43 337 | 1107·47 | ·00 | 4892·18 | ·00 | +·06 | −·04 | 29 | 1857·42 | ·00 | 6157·39 | ·00 | −·09† | +·11† |
| 5318 | 43 341 | 1433·39 | ·00 | 4492·03 | ·00 | +·29 | −·01 | 36 | 2933·69 | ·00 | 4886·47 | ·00 | +·09 | +·14 |
| | 43 343 | 1567·38 | ·00 | 5757·48 | ·00 | −·31 | +·13 | 39 | 3164·54 | ·00 | 3862·03 | ·00 | −·12 | +·14 |
| | 44 346 | 2490·45 | ·00 | 7179·04 | ·00 | +·20 | +·26 | 41 | 3636·29 | ·00 | 6455·17 | ·00 | +·08† | −·03† |
| | 42 352 | 3315·94 | ·00 | 3065·45 | ·00 | −·04 | +·16 | 45 | 4312·83 | ·00 | 5634·26 | ·00 | −·25 | +·04 |
| | 42 354 | 3441·76 | ·00 | 836·35 | ·00 | +·13* | −·50* | 46 | 4929·24 | ·00 | 3324·52 | ·00 | +·18 | +·19 |
| | 42 356 | 4122·91 | ·00 | 3301·14 | ·00 | +·33 | +·08 | 47 | 5201·82 | ·00 | 5172·32 | ·00 | −·04 | +·11 |
| | 42 360 | 4650·56 | ·00 | 1632·58 | ·00 | −·23 | −·26 | 48 | 5759·97 | ·00 | 3934·55 | ·00 | +·06 | +·14 |
| | 42 361 | 4738·50 | ·00 | 3101·72 | ·00 | −·14 | +·06 | | | | | | | |
| | 43 364 | 6045·74 | ·00 | 6714·37 | ·00 | −·05 | −·02 | | | | | Mean | −·01 | +·13 |
| | 42 370 | 6086·13 | ·00 | 3323·68 | ·00 | −·29 | +·09 | | | | | | | |
| | Eros | 4007·41 | ·00 | 4523·39 | ·00 | ... | ... | | | | | | | |

* Not used in forming the finally adopted values of *c.* and *f.* (Table IV.), the star being more than 55′ from the centre of the plate.
† Not used in forming the Mean Correction for Comparison Stars (Table X.), the star being more than 25′ from the centre of the plate.
The number given in column 9 is the reference number assigned to the comparison stars in Tables VIII. and IX.

TABLE II.—Measured Co-ordinates and Residuals, Astrographic 13-inch Refractor.

| Date and Plate No. | Reference Stars. |  |  |  |  |  |  | Comparison Stars. |  |  |  |  |  |  |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
|  | No. in B.D. | x. | Refraction Correction applied. | y. | Refraction Correction applied. | Residuals C—O. x. | Residuals C—O. y. | No. | x. | Refraction Correction applied. | y. | Refraction Correction applied. | Residuals. x. | Residuals. y. |
|  | ° | " | " | " | " | " | " |  | " | " | " | " | " | " |
| 1900. December 19 5319 | 43 337 | 1120·12 | ·00 | 4926·14 | ·00 | +·08 | −·07 | 29 | 1877·95 | ·00 | 6186·77 | ·00 | −·10† | −·17† |
|  | 43 341 | 1443·34 | ·00 | 4523·98 | ·00 | +·51 | −·05 | 36 | 2946·33 | ·00 | 4909·07 | ·00 | +·02 | +·10 |
|  | 43 343 | 1585·17 | ·00 | 5788·57 | ·00 | −·06 | +·05 | 39 | 3170·49 | ·00 | 3883·18 | ·00 | +·11 | +·14 |
|  | 44 346 | 2517·22 | ·00 | 7204·60 | ·00 | +·28 | −·09 | 41 | 3658·72 | ·00 | 6473·51 | ·00 | −·04† | −·26† |
|  | 42 352 | 3317·16 | ·00 | 3085·68 | ·00 | −·04 | +·17 | 45 | 4329·85 | ·00 | 5648·53 | ·00 | −·11 | −·28 |
|  | 42 354 | 3429·20 | ·00 | 855·79 | ·00 | +·01* | −·39* | 46 | 4932·21 | ·00 | 3334 82 | ·00 | −·02 | +·09 |
|  | 42 356 | 4125·67 | ·00 | 3316·09 | ·00 | +·22 | +·33 | 47 | 5215·95 | ·00 | 5180·87 | ·00 | +·10 | −·02 |
|  | 42 360 | 4642·92 | ·00 | 1644·37 | ·00 | −·36 | −·06 | 48 | 5766·63 | ·00 | 3939·65 | ·00 | −·06 | +·05 |
|  | 42 361 | 4739·97 | ·00 | 3113·04 | ·00 | −·24 | +·13 |  |  |  |  |  |  |  |
|  | 43 364 | 6069·40 | ·00 | 6717·77 | ·00 | +·11 | −·30 |  |  |  |  | Mean | +·01 | +·01 |
|  | 42 370 | 6089·08 | ·00 | 3326·51 | ·00 | −·53 | +·25 |  |  |  |  |  |  |  |
|  | Eros | 4029·31 | ·00 | 4518·36 | ·00 | ... | ... |  |  |  |  |  |  |  |
| December 19 5322 | 43 337 | 1095·46 | −·02 | 4877·17 | −·01 | ·00 | −·05 | 29 | 1847·40 | −·01 | 6140·92 | −·01 | −·39† | +·17† |
|  | 43 341 | 1420·68 | −·02 | 4476·39 | −·01 | +·29 | +·09 | 36 | 2921·48 | ·00 | 4868·40 | ·00 | −·06 | +·07 |
|  | 43 343 | 1556·26 | −·02 | 5741·56 | −·01 | −·09 | +·16 | 39 | 3150·62 | ·00 | 3843·72 | ·00 | −·08 | −·01 |
|  | 44 346 | 2481·50 | −·01 | 7161·43 | −·01 | +·13 | +·30 | 41 | 3626·04 | −·01 | 6435·74 | −·01 | +·09† | −·06† |
|  | 42 352 | 3300·80 | −·01 | 3046·80 | −·01 | −·01 | +·18 | 45 | 4301·10 | ·00 | 5613·64 | ·00 | −·06 | +·12 |
|  | 42 354 | 3423·23 | −·02 | 817·76 | −·03 | +·32* | −·57* | 46 | 4914·39 | ·00 | 3303·47 | ·00 | +·05 | −·16 |
|  | 42 356 | 4108·06 | ·00 | 3281·14 | ·00 | +·27 | +·05 | 47 | 5189·47 | −·01 | 5150·34 | −·01 | −·05 | +·08 |
|  | 42 360 | 4633·24 | −·01 | 1611·68 | −·01 | −·33 | −·14 | 48 | 5745·72 | −·01 | 3912·09 | ·00 | +·07 | −·27 |
|  | 42 361 | 4723·19 | ·00 | 3080·78 | ·00 | −·14 | −·05 |  |  |  |  |  |  |  |
|  | 43 364 | 6035·34 | −·03 | 6690·75 | −·02 | ·00 | +·03 |  |  |  |  | Mean | −·02 | −·03 |
|  | 42 370 | 6071·08 | −·01 | 3300·43 | ·00 | −·48 | −·03 |  |  |  |  |  |  |  |
|  | Eros | 4167·15 | ·00 | 4196·19 | ·00 | ... | ... |  |  |  |  |  |  |  |
| December 19 5324 | 43 337 | 1096·61 | −·04 | 4944·12 | −·02 | ·00 | −·24 | 29 | 1857·62 | −·02 | 6201·74 | −·01 | +·09† | −·28† |
|  | 43 341 | 1418·54 | −·04 | 4540·69 | −·02 | +·41 | +·03 | 36 | 2921·96 | −·01 | 4920·63 | ·00 | +·07 | −·14 |
|  | 43 343 | 1563·91 | −·03 | 5804·63 | −·01 | −·03 | −·10 | 39 | 3143·24 | −·01 | 3894·09 | −·01 | −·06 | +·06 |
|  | 44 346 | 2499·66 | −·02 | 7216·64 | −·03 | +·41 | +·04 | 41 | 3638·77 | −·01 | 6481·91 | −·02 | −·10† | −·33† |
|  | 42 352 | 3287·38 | −·01 | 3096·09 | −·01 | −·13 | +·31 | 45 | 4307·14 | −·01 | 5654·59 | −·01 | −·09 | −·17 |
|  | 42 354 | 3392·38 | −·05 | 866·39 | −·06 | +·38* | −·17* | 46 | 4902·53 | ·00 | 3339·62 | ·00 | −·06 | +·01 |
|  | 42 356 | 4096·33 | ·00 | 3323·88 | ·00 | +·06 | +·12 | 47 | 5191·69 | −·01 | 5184·06 | −·01 | −·07 | −·05 |
|  | 42 360 | 4608·34 | −·02 | 1650·49 | −·02 | −·39 | +·07 | 48 | 5738·48 | −·01 | 3941·08 | −·01 | −·20 | +·17 |
|  | 42 361 | 4709·54 | ·00 | 3118·54 | ·00 | −·14 | +·08 |  |  |  |  |  |  |  |
|  | 43 364 | 6049·33 | −·06 | 6717·41 | −·05 | −·10 | −·32 |  |  |  |  | Mean | −·07 | −·02 |
|  | 42 370 | 6058·71 | −·01 | 3327·11 | −·01 | −·42 | +·23 |  |  |  |  |  |  |  |
|  | Eros | 4216·99 | ·00 | 4144·59 | ·00 | ... | ... |  |  |  |  |  |  |  |
| December 20 5326 | 42 351 | 2192·64 | −·08 | 1834·22 | −·08 | +·45 | −·03 |  |  |  |  |  |  |  |
|  | 42 352 | 2308·97 | −·02 | 4625·39 | −·01 | −·30 | +·24 |  |  |  |  |  |  |  |
|  | 42 354 | 2402·14 | −·06 | 2395·36 | −·05 | +·33* | +·01* |  |  |  |  |  |  |  |
|  | 42 356 | 3118·60 | ·00 | 4848·56 | ·00 | +·35 | +·23 |  |  |  |  |  |  |  |
|  | 42 360 | 3621·68 | −·01 | 3172·88 | −·01 | −·04 | ·00 |  |  |  |  |  |  |  |
|  | 42 361 | 3730·51 | ·00 | 4639·90 | ·00 | +·33 | +·17 |  |  |  |  |  |  |  |
|  | 42 370 | 5081·32 | −·01 | 4841·40 | −·01 | −·65 | −·06 |  |  |  |  |  |  |  |
|  | 42 373 | 5825·80 | −·01 | 2590·38 | −·01 | −·64 | −·22 |  |  |  |  |  |  |  |
|  | 42 375 | 6160·44 | −·01 | 3063·09 | −·01 | +·23 | −·25 |  |  |  |  |  |  |  |
|  | 43 373 | 6989·02 | −·06 | 4954·27 | −·05 | −·04 | −·12 |  |  |  |  |  |  |  |
|  | Eros | 4251·61 | ·00 | 4108·32 | ·00 | ... | ... |  |  |  |  |  |  |  |

* Not used in forming the finally adopted values of *c.* and *f.* (Table IV.), the star being more than 55′ from the centre of the plate.

† Not used in forming the Mean Correction for Comparison Stars (Table X.), the star being more than 25′ from the centre of the plate.

The number given in column 9 is the reference number assigned to the comparison stars in Tables VIII. and IX.

TABLE II.—Measured Co-ordinates and Residuals, Astrographic 13-inch Refractor.

| Date and Plate No. | Reference Stars. | | | | | | | Comparison Stars. | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | No. in B.D. | x. | Refraction Correction applied. | y. | Refraction Correction applied. | Residuals C—O. | | No. | x. | Refraction Correction applied. | y. | Refraction Correction applied. | Residuals. | |
| | | | | | | x. | y. | | | | | | x. | y. |
| | | ″ | ″ | ″ | ″ | ″ | ″ | | ″ | ″ | ″ | ″ | ″ | ″ |
| 1900.<br>December 21<br>5327 | 42 360 | 1346·03 | −·02 | 4841·44 | −·01 | −·25 | +·32 | 50 | 2664·95 | −·01 | 3447·62 | −·01 | −·05 | +·06 |
| | 42 370 | 2807·62 | −·01 | 6509·92 | −·01 | −·18 | −·07 | 52 | 2949·33 | −·01 | 6061·73 | ·00 | −·04 | −·09 |
| | 41 342 | 3378·64 | −·02 | 1063·32 | −·02 | −·10 | +·20 | 56 | 4044·68 | ·00 | 5130·99 | ·00 | +·09 | −·04 |
| | 42 373 | 3549·92 | ·00 | 4257·48 | ·00 | −·60 | −·12 | 57 | 4087·62 | ·00 | 3185·93 | ·00 | +·07 | +·08 |
| | 41 347 | 3760·19 | −·01 | 1888·15 | −·01 | +·09 | −·01 | 58 | 4766·17 | ·00 | 4098·56 | ·00 | −·09 | −·01 |
| | 42 375 | 3885·48 | ·00 | 4730·06 | ·00 | +·02 | −·14 | | | | | | | |
| | 41 352 | 4545·63 | ·00 | 2917·78 | ·00 | +·15 | −·06 | | | | | Mean | ·00 | ·00 |
| | 43 373 | 4716·48 | −·01 | 6621·23 | −·01 | −·09 | −·02 | | | | | | | |
| | 42 388 | 5944·52 | −·02 | 5876·44 | −·02 | +·30 | +·05 | | | | | | | |
| | 42 390 | 6170·98 | −·01 | 3136·55 | ·00 | +·13 | +·04 | | | | | | | |
| | 41 364 | 7384·48 | −·03 | 2317·20 | −·01 | +·58* | −·19* | | | | | | | |
| | Eros | 2967·70 | ·00 | 4350·33 | ·00 | ... | ... | | | | | | | |
| December 21<br>5328 | 42 360 | 1348·89 | −·03 | 4841·76 | −·01 | −·24 | +·09 | 50 | 2667·21 | −·01 | 3447·26 | −·01 | +·02 | −·01 |
| | 42 361 | 1460·46 | −·02 | 6309·07 | −·01 | (−·31*) | (+·45*) | 52 | 2952·41 | −·01 | 6060·92 | −·01 | +·08 | +·01 |
| | 42 370 | 2811·11 | −·01 | 6509·35 | −·01 | −·32 | −·16 | 56 | 4047·76 | ·00 | 5129·78 | ·00 | −·17 | +·02 |
| | 41 342 | 3380·13 | −·03 | 1062·69 | −·03 | −·12 | +·18 | 57 | 4089·96 | ·00 | 3184·91 | ·00 | −·10 | +·02 |
| | 42 373 | 3552·52 | ·00 | 4256·54 | ·00 | −·66 | −·06 | 58 | 4768·41 | ·00 | 4097·07 | ·00 | +·11 | +·08 |
| | 41 347 | 3761·87 | −·01 | 1887·12 | −·02 | +·12 | +·17 | | | | | | | |
| | 42 375 | 3888·31 | ·00 | 4728·97 | ·00 | −·13 | −·11 | | | | | Mean | −·01 | +·02 |
| | 41 352 | 4547·63 | ·00 | 2916·60 | ·00 | +·18 | −·15 | | | | | | | |
| | 43 373 | 4719·64 | −·02 | 6619·59 | −·02 | +·02 | +·09 | | | | | | | |
| | 42 388 | 5947·64 | −·02 | 5874·41 | −·02 | +·13 | +·01 | | | | | | | |
| | 42 390 | 6172·82 | −·01 | 3134·47 | ·00 | +·29 | +·08 | | | | | | | |
| | 41 364 | 7385·66 | −·03 | 2315·06 | −·01 | +1·05* | −·61* | | | | | | | |
| | Eros | 2992·19 | −·01 | 4316·64 | ·00 | ... | ... | | | | | | | |
| December 21<br>5329 | 42 360 | 1347·51 | −·03 | 4844·52 | −·02 | −·34 | +·27 | 50 | 2666·33 | −·02 | 3450·82 | −·02 | +·02 | −·06 |
| | 42 361 | 1458·03 | −·03 | 6311·66 | −·02 | (−·13*) | (+·64*) | 52 | 2950·25 | −·01 | 6064·13 | −·01 | −·03 | +·07 |
| | 42 370 | 2808·63 | −·01 | 6512·46 | −·01 | −·32 | −·14 | 56 | 4045·60 | ·00 | 5133·47 | ·00 | +·09 | +·01 |
| | 41 342 | 3380·25 | −·04 | 1066·85 | −·05 | +·04 | +·02 | 57 | 4088·92 | ·00 | 3188·97 | ·00 | +·05 | −·09 |
| | 42 373 | 3551·05 | ·00 | 4260·25 | ·00 | −·58 | −·14 | 58 | 4767·09 | ·00 | 4101·21 | ·00 | −·01 | −·07 |
| | 41 347 | 3761·60 | −·02 | 1891·22 | −·03 | +·22 | +·06 | | | | | | | |
| | 42 375 | 3886·62 | ·00 | 4732·79 | ·00 | −·11 | −·27 | | | | | Mean | +·02 | −·03 |
| | 41 352 | 4546·77 | 00 | 2920·53 | −·01 | +·25 | ·00 | | | | | | | |
| | 43 373 | 4716·88 | −·02 | 6623·41 | −·03 | +·05 | −·08 | | | | | | | |
| | 42 388 | 5945·29 | −·04 | 5878·40 | −·03 | +·01 | +·12 | | | | | | | |
| | 42 390 | 6171·85 | −·01 | 3139·04 | −·01 | +·19 | +·03 | | | | | | | |
| | 41 364 | 7385·20 | −·03 | 2319·93 | −·02 | +·75* | −·52* | | | | | | | |
| | Eros | 3022·11 | −·01 | 4273·74 | ·00 | ... | ... | | | | | | | |
| December 24<br>5330 | 41 342 | 973·36 | −·01 | 5535·51 | ·00 | −·21 | −·12 | | | | | | | |
| | 41 347 | 1363·45 | −·01 | 6356·24 | ·00 | +·04 | −·09 | | | | | | | |
| | 41 352 | 2159·57 | −·01 | 7378·10 | −·01 | +·33* | −·28* | | | | | | | |
| | 41 353 | 2345·75 | ·00 | 4788·52 | ·00 | −·19 | +·16 | | | | | | | |
| | 42 390 | 3787·78 | −·01 | 7579·97 | −·01 | +·10 | −·03 | | | | | | | |
| | 40 384 | 3949·25 | ·00 | 2860·97 | ·00 | +·36 | +·02 | | | | | | | |
| | 41 362 | 4694·79 | ·00 | 4260·77 | ·00 | −·26 | +·21 | | | | | | | |
| | 40 390 | 4762·87 | ·00 | 2975·64 | ·00 | −·12 | +·27 | | | | | | | |

* Not used in forming the finally adopted values of *c.* and *f.* (Table IV.), the star being more than 55′ from the centre of the plate.
† Not used in forming the Mean Correction for Comparison Stars (Table X.), the star being more than 25′ from the centre of the plate.
The number given in column 9 is the reference number assigned to the comparison stars in Tables VIII. and IX.

TABLE II.—Measured Co-ordinates and Residuals, Astrographic 13-inch Refractor.

| Date and Plate No. | Reference Stars. | | | | | | | Comparison Stars. | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | No. in B.D. | x. | Refraction Correction applied. | y. | Refraction Correction applied. | Residuals C—O. x. | Residuals C—O. y. | No. | x. | Refraction Correction applied. | y. | Refraction Correction applied. | Residuals. x. | Residuals. y. |
| 1900. | | ″ | ″ | ″ | ″ | ″ | ″ | | ″ | ″ | ″ | ″ | ″ | ″ |
| December 24<br>5330—*contd.* | 41 364 | 4992·91 | −·01 | 6747·89 | −·01 | +·21 | −·17 | | | | | | | |
| | 40 400 | 5889·64 | −·01 | 842·49 | −·01 | +·03* | −·37* | | | | | | | |
| | 40 401 | 6003·70 | ·00 | 3551·22 | ·00 | +·21 | +·27 | | | | | | | |
| | 41 374 | 7231·09 | −·01 | 4473·46 | −·01 | −·45 | +·12 | | | | | | | |
| | Eros | 4056·28 | ·00 | 4335·01 | ·00 | ... | ... | | | | | | | |
| December 26<br>5331 | 39 421 | 1774·02 | −·01 | 2721·80 | −·01 | +·56 | −·05 | 65 | 2924·05 | ·00 | 5036·31 | ·00 | ... | ... |
| | 40 390 | 2079·72 | −·01 | 6097·86 | ·00 | +·39 | −·05 | 66 | 3095·36 | ·00 | 3259·45 | ·00 | ... | ... |
| | 40 394 | 2376·77 | −·01 | 3376·34 | ·00 | −·57 | +·08 | 68 | 3576·17 | ·00 | 2910·03 | ·00 | ... | ... |
| | 40 400 | 3182·54 | ·00 | 3951·67 | ·00 | +·20 | −·06 | 69 | 3793·33 | ·00 | 5587·15 | ·00 | ... | ... |
| | 40 401 | 3327·31 | ·00 | 6659·03 | ·00 | +·50 | +·21 | 73 | 5562·96 | ·00 | 3722·07 | ·00 | −·05 | +·11 |
| | 39 434 | 3468·33 | ·00 | 3281·97 | ·00 | −·38 | −·19 | 76 | 5954·16 | ·00 | 4656·11 | ·00 | ... | ... |
| | 41 377 | 5029·64 | −·01 | 7117·11 | −·01 | −·27 | −·28 | | | | | | | |
| | 40 406 | 5086·74 | ·00 | 3495·33 | ·00 | +·18 | +·23 | | | | | Mean | (−·05) | (+·11) |
| | 40 412 | 5848·65 | ·00 | 4053·80 | ·00 | −·13 | +·05 | | | | | | | |
| | 39 447 | 5873·70 | ·00 | 2702·29 | ·00 | +·19 | +·05 | | | | | | | |
| | 39 448 | 6723·39 | −·01 | 2807·59 | −·01 | +·02 | +·01 | | | | | | | |
| | 40 415 | 6731·95 | −·01 | 5638·28 | −·01 | −·44 | +·04 | | | | | | | |
| | Eros | 4092·95 | ·00 | 4354·63 | ·00 | ... | ... | | | | | | | |
| December 28<br>5333 | 39 434 | 464·92 | −·01 | 6400·54 | ·00 | −·05* | ·00* | 73 | 2565·77 | ·00 | 6815·16 | ·00 | +·05† | −·14† |
| | 40 406 | 2086·14 | −·01 | 6594·47 | ·00 | (+·67) | (−·15) | 75 | 2783·05 | ·00 | 4092·59 | ·00 | −·16 | +·11 |
| | 40 412 | 2855·42 | ·00 | 7143·37 | −·01 | −·08 | −·11 | 78 | 3455·46 | ·00 | 5388·25 | ·00 | −·04 | −·05 |
| | 39 447 | 2863·76 | ·00 | 5791·29 | ·00 | +·28 | +·11 | 79 | 3831·90 | ·00 | 3231·94 | ·00 | −·04 | +·13 |
| | 39 448 | 3714·99 | ·00 | 5886·02 | ·00 | −·24 | +·16 | 82 | 4544·84 | ·00 | 2440·92 | ·00 | −·16 | +·05 |
| | 39 450 | 4315·90 | ·00 | 3735·89 | ·00 | −·22 | −·14 | 83 | 4648·68 | ·00 | 1555·83 | ·00 | −·15† | +·06† |
| | 38 392 | 4525·38 | ·00 | 2509·09 | ·00 | −·28 | +·10 | 84 | 5156·33 | ·00 | 5857·07 | ·00 | −·08 | −·04 |
| | 39 454 | 5194·71 | ·00 | 6265·76 | ·00 | −·29 | +·02 | 85 | 5250·48 | ·00 | 4299·25 | ·00 | −·09 | +·07 |
| | 39 457 | 6589·52 | ·00 | 4078·98 | ·00 | +·37 | +·19 | | | | | | | |
| | 38 402 | 7287·09 | −·01 | 1851·80 | ·00 | −·09* | −·30* | | | | | Mean | −·10 | +·05 |
| | 39 464 | 7970·58 | −·01 | 3035·39 | ·00 | −·11* | +·15* | | | | | | | |
| | Eros | 3989·18 | ·00 | 4421·31 | ·00 | ... | ... | | | | | | | |
| December 28<br>5334 | 39 434 | 463·53 | −·01 | 6403·28 | −·01 | −·55* | +·45* | 73 | 2563·93 | ·00 | 6817·68 | ·00 | +·01† | −·03† |
| | 40 406 | 2084·71 | ·00 | 6596·93 | ·00 | +·24 | +·10 | 75 | 2780·44 | ·00 | 4095·25 | ·00 | −·22 | +·05 |
| | 40 412 | 2853·52 | ·00 | 7145·85 | ·00 | +·10 | −·11 | 78 | 3452·89 | ·00 | 5390·40 | ·00 | +·22 | +·18 |
| | 39 447 | 2861·73 | ·00 | 5793·83 | ·00 | +·20 | +·04 | 79 | 3829·12 | ·00 | 3234·25 | ·00 | −·19 | +·12 |
| | 39 448 | 3712·69 | ·00 | 5888·38 | ·00 | −·03 | +·02 | 82 | 4541·59 | ·00 | 2443·04 | ·00 | −·10 | +·02 |
| | 39 450 | 4313·20 | ·00 | 3737·91 | ·00 | −·27 | −·10 | 83 | 4645·39 | ·00 | 1557·86 | ·00 | −·30† | +·09† |
| | 38 392 | 4522·44 | ·00 | 2511·25 | ·00 | −·43 | −·05 | 84 | 5153·89 | ·00 | 5859·02 | ·00 | +·16 | −·13 |
| | 39 454 | 5192·49 | ·00 | 6267·75 | ·00 | −·07 | −·21 | 85 | 5247·69 | ·00 | 4301·17 | ·00 | +·04 | +·01 |
| | 39 457 | 6586·69 | ·00 | 4080·41 | ·00 | +·54 | +·15 | | | | | | | |
| | 38 402 | 7283·61 | −·01 | 1853·03 | ·00 | +·05* | −·34* | | | | | Mean | −·02 | +·04 |
| | 39 464 | 7967·26 | −·01 | 3036·51 | ·00 | +·20* | +·01* | | | | | | | |
| | Eros | 4016·05 | ·00 | 4391·17 | ·00 | ... | ... | | | | | | | |

* Not used in forming the finally adopted values of *c.* and *f.* (Table IV.), the star being more than 55′ from the centre of the plate.
† Not used in forming the Mean Correction for Comparison Stars (Table X.), the star being more than 25′ from the centre of the plate.
The number given in column 9 is the reference number assigned to the comparison stars in Tables VIII. and IX.

TABLE II.—Measured Co-ordinates and Residuals, Astrographic 13-inch Refractor.

| Date and Plate No. | Reference Stars. | | | | | | | Comparison Stars. | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | No. in B.D. | x. | Refraction Correction applied. | y. | Refraction Correction applied. | Residuals C—O. | | No. | x. | Refraction Correction applied. | y. | Refraction Correction applied. | Residuals. | |
| | | | | | | x. | y. | | | | | | x. | y. |
| | ° | ″ | ″ | ″ | ″ | ″ | ″ | | ″ | ″ | ″ | ″ | ″ | ″ |
| 1900.<br>December 28<br>5335 | 39 434 | 468·80 | −·04 | 6412·48 | −·02 | −·70* | +·37* | 73 | 2568·56 | −·01 | 6826·12 | −·01 | −·05† | −·07† |
| | 40 406 | 2089·44 | −·01 | 6605·64 | −·01 | +·22 | −·02 | 75 | 2784·83 | −·01 | 4104·20 | ·00 | +·20 | −·11 |
| | 40 412 | 2858·13 | −·01 | 7153·89 | −·02 | −·05 | +·09 | 78 | 3457·54 | ·00 | 5398·96 | ·00 | +·09 | −·02 |
| | 39 447 | 2866·28 | −·01 | 5802·31 | −·01 | +·26 | +·05 | 79 | 3833·52 | ·00 | 3243·08 | ·00 | +·06 | −·11 |
| | 39 448 | 3716·92 | ·00 | 5896·44 | −·01 | +·13 | +·15 | 82 | 4545·97 | −·01 | 2451·60 | −·01 | +·10 | −·01 |
| | 39 450 | 4317·59 | ·00 | 3746·49 | ·00 | −·17 | −·31 | 83 | 4649·33 | −·01 | 1566·72 | −·02 | +·40† | −·12† |
| | 38 392 | 4526·88 | ·00 | 2519·88 | −·01 | −·30 | −·15 | 84 | 5158·07 | −·02 | 5866·58 | −·02 | +·03 | +·07 |
| | 39 454 | 5196·50 | −·02 | 6275·30 | −·02 | −·09 | −·09 | | | | | | | |
| | 39 457 | 6590·75 | −·02 | 4088·06 | −·01 | +·35 | +·10 | | | | | Mean | +·10 | −·04 |
| | 38 402 | 7287·52 | −·03 | 1860·96 | −·01 | +·11* | −·50* | | | | | | | |
| | 39 464 | 7970·85 | −·05 | 3043·59 | −·02 | +·27* | +·28* | | | | | | | |
| | Eros | 4219·07 | ·00 | 4184·99 | ·00 | ... | ... | | | | | | | |
| December 28<br>5336 | 39 434 | 456·87 | −·05 | 6408·38 | −·03 | −·33* | +·22* | 73 | 2556·39 | −·02 | 6822·56 | −·02 | +·01† | +·11† |
| | 40 406 | 2077·59 | −·02 | 6602·05 | −·02 | +·19 | +·01 | 75 | 2774·59 | −·01 | 4101·17 | −·01 | +·20 | +·01 |
| | 40 412 | 2845·90 | −·02 | 7150·71 | −·03 | −·15 | −·01 | 78 | 3446·69 | ·00 | 5396·27 | ·00 | −·27 | −·11 |
| | 39 447 | 2854·88 | −·01 | 5799·18 | −·01 | +·25 | +·09 | 79 | 3823·95 | −·01 | 3240·72 | −·01 | −·13 | −·04 |
| | 39 448 | 3705·37 | −·01 | 5893·68 | −·01 | +·12 | +·19 | 82 | 4536·73 | −·01 | 2449·86 | −·01 | +·04 | −·15 |
| | 39 450 | 4307·32 | ·00 | 3744·21 | ·00 | −·05 | −·18 | 84 | 5146·45 | −·02 | 5864·48 | −·03 | −·07 | +·09 |
| | 38 392 | 4517·39 | −·01 | 2518·06 | −·01 | −·14 | −·21 | | | | | | | |
| | 39 454 | 5184·58 | −·03 | 6273·21 | −·04 | −·17 | −·11 | | | | | Mean | −·05 | −·04 |
| | 39 457 | 6580·13 | −·03 | 4086·87 | −·02 | +·35 | +·13 | | | | | | | |
| | 38 402 | 7278·43 | −·03 | 1860·27 | −·02 | +·03* | −·35* | | | | | | | |
| | 39 464 | 7961·21 | −·06 | 3043·29 | −·03 | −·15* | +·18* | | | | | | | |
| | Eros | 4250·82 | ·00 | 4138·25 | ·00 | ... | ... | | | | | | | |
| December 29<br>5337 | 39 447 | 1773·91 | ·00 | 7596·77 | −·01 | +·34* | +·01* | 75 | 1681·06 | ·00 | 5898·56 | ·00 | −·01† | −·14† |
| | 39 448 | 2625·94 | ·00 | 7685·16 | −·01 | −·19* | +·31* | 79 | 2723·91 | ·00 | 5030·42 | ·00 | +·10 | −·03 |
| | 37 452 | 3051·84 | −·01 | 597·19 | −·01 | +·08 | +·17 | 82 | 3431·19 | ·00 | 4234·35 | ·00 | +·03 | −·07 |
| | 39 450 | 3211·52 | ·00 | 5530·74 | ·00 | −·01 | −·23 | 83 | 3528·86 | ·00 | 3348·82 | ·00 | −·06 | −·21 |
| | 38 392 | 3412·25 | ·00 | 4302·76 | ·00 | −·02 | −·21 | 85 | 4150·34 | ·00 | 6087·54 | ·00 | −·23 | +·04 |
| | 37 465 | 4700·77 | ·00 | 405·72 | −·01 | −·24 | −·28 | 89 | 5789·05 | ·00 | 3160·43 | ·00 | +·08 | −·07 |
| | 37 468 | 5033·04 | ·00 | 776·83 | −·01 | +·08 | −·31 | 91 | 6180·86 | ·00 | 4002·77 | ·00 | +·04 | −·03 |
| | 39 457 | 5487·73 | ·00 | 5857·67 | ·00 | +·35 | +·17 | | | | | | | |
| | 38 402 | 6169·21 | ·00 | 3625·63 | ·00 | −·15 | −·15 | | | | | Mean | −·01 | −·06 |
| | 39 464 | 6860·99 | ·00 | 4804·06 | ·00 | −·06 | +·42 | | | | | | | |
| | 38 408 | 7343·99 | ·00 | 1710·85 | ·00 | −·13 | −·03 | | | | | | | |
| | 39 468 | 7381·37 | −·01 | 7833·87 | −·02 | −·07* | +·13* | | | | | | | |
| | Eros | 4422·28 | ·00 | 4698·62 | ·00 | ... | ... | | | | | | | |
| December 29<br>5338 | 39 447 | 946·76 | ·00 | 7783·13 | −·01 | +·28* | −·05* | 79 | 1880·17 | ·00 | 5210·50 | ·00 | +·19 | −·04 |
| | 39 448 | 1799·19 | ·00 | 7865·85 | −·01 | −·01* | +·39* | 82 | 2582·35 | ·00 | 4409·62 | ·00 | +·07 | +·16 |
| | 37 452 | 2179·75 | −·01 | 775·13 | −·01 | −·06 | +·32 | 83 | 2674·21 | ·00 | 3523·32 | ·00 | +·10 | +·16 |
| | 39 450 | 2370·92 | ·00 | 5707·82 | ·00 | +·16 | −·37 | 85 | 3313·00 | ·00 | 6258·48 | ·00 | +·27 | −·11 |
| | 38 392 | 2563·92 | ·00 | 4478·04 | ·00 | −·04 | +·14 | 89 | 4933·40 | ·00 | 3320·58 | ·00 | −·06 | +·07 |
| | 37 465 | 3827·20 | ·00 | 573·30 | −·01 | −·17 | −·31 | 91 | 5330·55 | ·00 | 4160·43 | ·00 | −·05 | +·03 |
| | 37 468 | 4162·05 | −·01 | 942·00 | −·01 | −·08 | −·08 | | | | | | | |
| | 39 457 | 4649·13 | ·00 | 6020·00 | ·00 | +·56 | −·06 | | | | | Mean | +·09 | +·05 |
| | 38 402 | 5316·28 | ·00 | 3783·31 | ·00 | −·07 | +·01 | | | | | | | |

* Not used in forming the finally adopted values of *c.* and *f.* (Table IV.), the star beiog more than 55′ from the centre of the plate.
† Not used in forming the Mean Correction for Comparison Stars (Table X.), the star being more than 25′ from the centre of the plate.
The number given in columu 9 is the reference number assigned to the comparison stars in Tables VIII. and IX.

## TABLE II.—Measured Co-ordinates and Residuals, Astrographic 13-inch Refractor.

| Date and Plate No. | Reference Stars. | | | | | | | Comparison Stars. | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | No. in B.D. | x. | Refraction Correction applied. | y. | Refraction Correction applied. | Residuals. C—O. x. | Residuals. C—O. y. | No. | x. | Refraction Correction applied. | y. | Refraction Correction. applied. | Residuals. x. | Residuals. y. |
| 1900. | ° | ″ | ″ | ″ | ″ | ″ | ″ | | ″ | ″ | ″ | ″ | ″ | ″ |
| December 29<br>5338—*contd.* | 39 464 | 6015·83 | ·00 | 4957·54 | ·00 | −·21 | +·21 | | | | | | | |
| | 38 408 | 6478·64 | ·00 | 1861·33 | ·00 | −·15 | −·02 | | | | | | | |
| | 39 468 | 6555·68 | −·01 | 7983·85 | −·01 | −·18* | −·22* | | | | | | | |
| | Eros | 3601·84 | ·00 | 4840·62 | ·00 | ... | ... | | | | | | | |
| 1901.<br>January 2<br>5339 | 37 486 | 1330·33 | −·03 | 3966·01 | −·02 | −·78 | −·22 | 97 | 2861·28 | −·01 | 4372·78 | ·00 | ... | ... |
| | 36 426 | 2882·40 | −·01 | 3389·02 | −·01 | ·00 | −·17 | 100 | 3533·35 | ·00 | 5148·43 | ·00 | ... | ... |
| | 38 423 | 2955·56 | −·01 | 6998·48 | −·02 | +·08 | −·14 | 101 | 5773·20 | −·01 | 4801·59 | −·01 | ... | ... |
| | 36 427 | 3446·82 | −·02 | 2130·58 | −·02 | −·01 | +·21 | | | | | | | |
| | 36 435 | 4406·16 | −·01 | 2197·40 | −·01 | +·10 | +·03 | | | | | | | |
| | 37 505 | 5207·47 | −·01 | 5938·66 | −·01 | ·00 | −·06 | | | | | | | |
| | 36 440 | 5224·80 | ·00 | 3095·10 | ·00 | +·26 | +·15 | | | | | | | |
| | 37 506 | 5347·97 | −·03 | 6774·28 | −·03 | +·15 | +·10 | | | | | | | |
| | 37 512 | 6308·15 | −·03 | 5863·68 | −·03 | +·18 | +·08 | | | | | | | |
| January 4<br>5341 | 36 435 | 576·81 | +·01 | 5258·29 | −·01 | +·02* | −·24* | 102 | 2946·35 | ·00 | 2763·70 | ·00 | −·01 | −·03 |
| | 36 440 | 1407·12 | +·01 | 6146·07 | −·01 | +·05 | +·06 | 36 450 | 3239·29 | ·00 | 4451·78 | ·00 | −·06 | −·15 |
| | 36 446 | 2817·29 | ·00 | 3092·41 | ·00 | +·27 | −·06 | 103 | 3735·72 | ·00 | 5673·46 | ·00 | +·01 | +·13 |
| | 36 450 | 3239·29 | ·00 | 4451·78 | ·00 | +·11 | −·22 | 36 458 | 4752·46 | ·00 | 4166·26 | ·00 | +·03 | −·03 |
| | 37 514 | 3576·18 | +·01 | 8049·81 | −·01 | −·18* | +·49* | 104 | 4921·21 | ·00 | 2805·25 | ·00 | +·25 | −·09 |
| | 36 453 | 3736·46 | ·00 | 5662·59 | ·00 | +·11 | −·35 | 105 | 5660·40 | ·00 | 5266·44 | ·00 | +·09 | −·08 |
| | 37 516 | 3815·82 | ·00 | 6920·29 | −·01 | +·11 | +·10 | | | | | | | |
| | 37 518 | 4227·22 | ·00 | 7840·18 | −·01 | −·09* | +·06* | | | | | Mean | +·05 | −·04 |
| | 36 458 | 4752·46 | ·00 | 4166·26 | ·00 | −·19 | +·07 | | | | | | | |
| | 36 464 | 6495·29 | ·00 | 4201·96 | ·00 | −·23 | +·11 | | | | | | | |
| | Eros | 3631·49 | ·00 | 4578·73 | ·00 | | | | | | | | | |
| January 4<br>5342 | 36 435 | 581·22 | +·01 | 5257·41 | −·01 | +·30* | −·47* | 102 | 2951·61 | ·00 | 2763·37 | ·00 | +·28 | −·07 |
| | 36 440 | 1411·40 | +·01 | 6145·34 | −·01 | +·15 | −·04 | 36 450 | 3244·10 | ·00 | 4551·51 | ·00 | +·11 | −·15 |
| | 36 446 | 2822·53 | ·00 | 3091·82 | ·00 | +·47 | +·12 | 103 | 3740·33 | ·00 | 5673·53 | ·00 | −·03 | −·03 |
| | 36 450 | 3244·10 | ·00 | 4451·51 | ·00 | +·28 | −·22 | 36 458 | 4757·70 | ·00 | 4166·52 | ·00 | −·11 | −·07 |
| | 37 514 | 3580·20 | +·01 | 8049·63 | −·01 | −·44* | +·56* | 104 | 4927·09 | ·00 | 2805·18 | ·00 | −·06 | +·24 |
| | 36 453 | 3740·93 | ·00 | 5662·59 | ·00 | +·22 | −·44 | 105 | 5665·46 | ·00 | 5266·90 | ·00 | −·23 | −·02 |
| | 37 516 | 3819·85 | ·00 | 6920·16 | −·01 | +·23 | +·18 | | | | | | | |
| | 37 518 | 4231·06 | ·00 | 7840·13 | −·01 | −·09* | +·20* | | | | | Mean | −·01 | −·02 |
| | 36 458 | 4757·70 | ·00 | 4166·52 | ·00 | −·33 | +·03 | | | | | | | |
| | 36 464 | 6500·97 | ·00 | 4202·77 | ·00 | −·81 | +·08 | | | | | | | |
| | Eros | 3673·75 | ·00 | 4547·48 | ·00 | | | | | | | | | |
| January 4<br>5343 | 36 435 | 587·71 | +·01 | 5258·90 | −·01 | +·53* | −·33* | 102 | 2957·88 | ·00 | 2764·19 | ·00 | +·23 | +·10 |
| | 36 440 | 1418·50 | +·01 | 6146·67 | −·01 | −·01 | +·04 | 36 450 | 3250·74 | ·00 | 4452·31 | ·00 | +·08 | −·03 |
| | 36 446 | 2829·05 | ·00 | 3092·80 | ·00 | +·17 | +·18 | 103 | 3747·18 | ·00 | 5674·39 | ·00 | +·03 | −·10 |
| | 36 450 | 3250·74 | ·00 | 4452·31 | ·00 | +·18 | −·08 | 36 458 | 4764·16 | ·00 | 4166·91 | ·00 | −·01 | +·05 |
| | 37 514 | 3587·37 | +·01 | 8050·84 | −·01 | −·19* | +·20* | 104 | 4933·37 | ·00 | 2805·61 | ·00 | −·12 | +·29 |
| | 36 453 | 3747·91 | ·00 | 5663·48 | ·00 | + 08 | −·52 | 105 | 5672·21 | ·00 | 5267·25 | ·00 | −·15 | −·09 |
| | 37 516 | 3827·06 | ·00 | 6921·17 | −·01 | +·17 | −·05 | | | | | | | |
| | | | | | | | | | | | | Mean | +·01 | +·04 |

* Not used in forming the finally adopted values of *c.* and *f.* (Table IV.), the star being more than 55′ from the centre of the plate.

† Not used in forming the Mean Correction for Comparison Stars (Table X.), the star being more than 25′ from the centre of the plate.

The number given in column 9 is the reference number assigned to the comparison stars in Tables VIII. and IX.

TABLE II.—Measured Co-ordinates and Residuals, Astrographic 13-inch Refractor.

| Date and Plate No. | Reference Stars. | | | | | | | Comparison Stars. | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | No. in B.D. | x. | Refraction Correction applied. | y. | Refraction Correction applied. | Residuals. C—O. x. | Residuals. C—O. y. | No. | x. | Refraction Correction applied. | y. | Refraction Correction applied. | Residuals. x. | Residuals. y. |
| 1901. | ° | ″ | ″ | ″ | ″ | ″ | ″ | | ″ | ″ | ″ | ″ | ″ | ″ |
| January 4 | 37 518 | 4238·43 | ·00 | 7840·74 | −·01 | −·08* | +·26* | | | | | | | |
| 5343-*contd.* | 36 458 | 4764·16 | ·00 | 4166·91 | ·00 | −·30 | +·17 | | | | | | | |
| | 36 464 | 6507·27 | ·00 | 4202·81 | ·00 | −·59 | +·12 | | | | | | | |
| | Eros | 3718·24 | ·00 | 4516·50 | ·00 | ... | ... | | | | | | | |
| January 5 | 36 446 | 849·89 | ·00 | 4692·22 | ·00 | −·56 | −·07 | 102 | 976·05 | ·00 | 4362·54 | ·00 | −·40† | −·23† |
| 5344 | 36 450 | 1282·04 | ·00 | 6048·12 | ·00 | −·30 | +·02 | 36° 458 | 2793·03 | ·00 | 5750·86 | ·00 | −·15 | −·19 |
| | 36 453 | 1788·74 | ·00 | 7255·04 | −·01 | −·31* | +·06* | 104 | 2951·09 | ·00 | 4388·51 | ·00 | +·12† | −·23† |
| | 36 458 | 2793·03 | ·00 | 5750·86 | ·00 | −·42 | +·01 | 105 | 3709·61 | ·00 | 6843·62 | ·00 | −·08 | +·05 |
| | 36 464 | 4535·69 | ·00 | 5772·75 | ·00 | −·04 | +·05 | 106 | 4342·73 | ·00 | 2711·38 | ·00 | +·46 | −·28 |
| | 36 470 | 6159·41 | −·01 | 7549·00 | −·01 | +·21 | +·42 | 107 | 4451·56 | ·00 | 4691·07 | ·00 | +·18 | −·14 |
| | 36 473 | 6453·03 | ·00 | 5905·05 | ·00 | +·28 | −·32 | 36° 464 | 4535·69 | ·00 | 5772·75 | ·00 | +·41 | −·12 |
| | 36 478 | 7574·39 | −·01 | 5982·62 | −·01 | +·11 | +·07 | 109 | 5618·63 | ·00 | 3241·43 | ·00 | +·32 | −·17 |
| | 35 470 | 7750·16 | ·00 | 1850·04 | −·01 | +·47* | −·60* | 110 | 5894·48 | ·00 | 4694·51 | ·00 | +·13 | −·14 |
| | 36 482 | 7993·17 | −·01 | 5607·05 | −·01 | +·56* | +·35* | | | | | | | |
| | | | | | | | | | | | | Mean | +·18 | −·14 |
| | Eros | 3835·58 | ·00 | 4444·40 | ·00 | ... | ... | | | | | | | |
| January 5 | 36 446 | 853·28 | −·01 | 4696·20 | ·00 | −·07 | +·05 | 102 | 979·64 | −·01 | 4366·48 | ·00 | −·14† | −·05† |
| 5345 | 36 450 | 1285·39 | −·01 | 6052·44 | ·00 | +·28 | −·23 | 36° 458 | 2796·77 | ·00 | 5754·80 | ·00 | −·02 | −·08 |
| | 36 453 | 1792·46 | −·01 | 7259·57 | −·01 | −·09* | −·42* | 104 | 2955·00 | ·00 | 4392·20 | ·00 | +·04† | +·13† |
| | 36 458 | 2796·77 | ·00 | 5754·80 | ·00 | −·26 | +·08 | 105 | 3713·28 | ·00 | 6847·56 | ·00 | +·13 | +·12 |
| | 36 464 | 4539·96 | ·00 | 5776·61 | ·00 | −·44 | +·13 | 106 | 4347·00 | ·00 | 2714·83 | ·00 | −·02 | +·26 |
| | 36 470 | 6163·27 | −·01 | 7553·21 | −·01 | +·23 | +·08 | 107 | 4455·53 | ·00 | 4694·76 | ·00 | +·04 | +·15 |
| | 36 473 | 6457·14 | −·01 | 5908·86 | −·01 | +·03 | −·26 | 36° 464 | 4539·96 | ·00 | 5776·61 | ·00 | −·02 | ·00 |
| | 36 478 | 7578·63 | −·01 | 5986·43 | −·01 | −·27 | +·08 | 109 | 5622·68 | ·00 | 3244·83 | ·00 | +·05 | +·37 |
| | 35 470 | 7754·27 | −·01 | 1853·18 | −·01 | +·14* | +·07* | 110 | 5898·49 | ·00 | 4698·01 | ·00 | −·07 | +·29 |
| | 36 482 | 7997·11 | −·01 | 5610·77 | −·01 | +·47* | +·44* | | | | | | | |
| | | | | | | | | | | | | Mean | +·01 | +·16 |
| | Eros | 3874·80 | ·00 | 4418·62 | ·00 | ... | ... | | | | | | | |
| January 5 | 36 446 | 848·50 | −·03 | 4700·11 | −·02 | −·20 | ·00 | 102 | 974·73 | −·03 | 4370·43 | −·02 | −·07† | −·10† |
| 5346 | 36 450 | 1280·21 | −·02 | 6055·77 | −·01 | −·01 | +·09 | 36° 458 | 2790·97 | −·01 | 5758·34 | ·00 | +·07 | ·00 |
| | 36 453 | 1786·49 | −·02 | 7262·91 | −·02 | −·07* | −·30* | 104 | 2949·66 | −·01 | 4396·54 | ·00 | +·08† | −·42† |
| | 36 458 | 2790·97 | −·01 | 5758·34 | ·00 | −·17 | +·18 | 105 | 3707·22 | −·01 | 6851·06 | −·02 | −·07 | +·02 |
| | 36 464 | 4533·57 | −·01 | 5780·16 | −·01 | −·16 | +·12 | 106 | 4341·71 | ·00 | 2719·10 | ·00 | +·19 | −·03 |
| | 36 470 | 6156·10 | −·06 | 7556·31 | −·06 | +·36 | +·17 | 107 | 4449·66 | ·00 | 4698·61 | ·00 | +·16 | −·02 |
| | 36 473 | 6450·47 | −·03 | 5912·31 | −·03 | +·10 | −·30 | 36° 464 | 4533·57 | −·01 | 5780·16 | −·01 | +·26 | −·03 |
| | 36 478 | 7571·88 | −·06 | 5990·01 | −·05 | −·40 | −·16 | 109 | 5616·92 | −·01 | 3248·93 | ·00 | +·27 | +·11 |
| | 35 470 | 7748·60 | −·03 | 1857·22 | −·02 | +·21* | −·01* | 110 | 5892·16 | −·01 | 4701·75 | −·01 | +·19 | +·15 |
| | 36 482 | 7990·41 | −·07 | 5614·35 | −·05 | +·31* | +·24* | | | | | | | |
| | | | | | | | | | | | | Mean | +·15 | +·03 |
| | Eros | 4126·75 | ·00 | 4209·11 | ·00 | ... | ... | | | | | | | |
| January 5 | 36 446 | 845·31 | −·05 | 4697·50 | −·03 | +·26 | +·18 | 102 | 971·86 | −·05 | 4367·77 | −·03 | +·08† | +·12† |
| 5347 | 36 450 | 1276·97 | −·03 | 6052·64 | −·02 | +·29 | +·48 | 36° 458 | 2787·74 | −·01 | 5755·29 | −·01 | +·16 | +·01 |
| | 36 453 | 1783·41 | −·02 | 7259·51 | −·03 | −·15* | +·05* | 104 | 2946·74 | −·01 | 4393·37 | ·00 | ·00† | −·09† |
| | 36 458 | 2787·74 | −·01 | 5755·29 | −·01 | −·06 | +·23 | 105 | 3703·73 | −·02 | 6847·52 | −·03 | +·01 | +·16 |
| | 36 464 | 4530·32 | −·01 | 5776·73 | −·02 | −·29 | +·20 | 106 | 4338·87 | −·01 | 2716·16 | −·01 | +·04 | +·06 |

* Not used in forming the finally adopted values of *c.* and *f.* (Table IV.), the star being more than 55′ from the centre of the plate.
† Not used in forming the Mean Correction for Comparison Stars (Table X.), the star being more than 25′ from the centre of the plate.
The number given in column 9 is the reference number assigned to the comparison stars in Tables VIII. and IX.

TABLE II.—Measured Co-ordinates and Residuals, Astrographic 13-inch Refractor.

| Date and Plate No. | Reference Stars. | | | | | | | Comparison Stars. | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | No. in B.D. | x. | Refraction Correction applied. | y. | Refraction Correction applied. | Residuals C—O | | No. | x. | Refraction Correction applied. | y. | Refraction Correction applied. | Residuals. | |
| | | | | | | x. | y. | | | | | | x. | y. |
| 1901. | ° | ″ | ″ | ″ | ″ | ″ | ″ | | ″ | ″ | ″ | ″ | ″ | ″ |
| January 5 5347—*contd.* | 36 470 | 6152·76 | −·10 | 7552·49 | −·10 | −·12 | +·04 | 107 | 4446·81 | ·00 | 4695·47 | ·00 | −·24 | −·07 |
| | 36 473 | 6447·10 | −·05 | 5908·83 | −·05 | −·18 | −·57 | 36° 464 | 4530·32 | −·01 | 5776·73 | −·02 | +·11 | +·01 |
| | 36 478 | 7567·93 | −·10 | 5986·10 | −·08 | −·28 | −·22 | 109 | 5614·06 | −·01 | 3245·98 | ·00 | −·12 | −·14 |
| | 35 470 | 7745·63 | −·04 | 1854·44 | −·03 | −·18* | −·59* | 110 | 5888·91 | −·02 | 4698·56 | −·02 | −·01 | −·14 |
| | 36 482 | 7986·21 | −·11 | 5610·37 | −·08 | +·68* | +·21* | | | | | | | |
| | | | | | | | | | | | | Mean | −·01 | −·02 |
| | Eros | 4177·91 | ·00 | 4162·24 | ·00 | ... | ... | | | | | | | |
| January 5 5348 | 36 446 | 854·73 | −·05 | 4693·15 | −·04 | −·30 | +·29 | 102 | 981·34 | −·06 | 4363·63 | −·04 | −·41† | +·03† |
| | 36 450 | 1285·86 | −·03 | 6048·37 | −·02 | −·07 | +·46 | 36° 458 | 2796·50 | −·01 | 5751·06 | −·01 | −·02 | +·08 |
| | 36 458 | 2796·50 | −·01 | 5751·06 | −·01 | −·31 | +·34 | 104 | 2955·84 | −·01 | 4389·33 | −·01 | −·23† | −·09† |
| | 36 464 | 4538·80 | −·01 | 5772·85 | −·02 | −·36 | +·15 | 105 | 3711·81 | −·02 | 6843·64 | −·03 | +·22 | −·11 |
| | 36 470 | 6160·41 | −·11 | 7548·55 | −·12 | +·14 | +·07 | 106 | 4348·23 | −·01 | 2712·74 | −·01 | −·18 | −·28 |
| | 36 473 | 6455·00 | −·07 | 5904·91 | −·06 | +·17 | −·41 | 107 | 4455·28 | ·00 | 4691·55 | ·00 | ·00 | −·06 |
| | 36 478 | 7576·00 | −·11 | 5982·52 | −·10 | −·18 | −·31 | 36° 464 | 4538·80 | −·01 | 5772·85 | −·02 | +·11 | −·08 |
| | 35 470 | 7754·35 | −·05 | 1851·26 | −·03 | +·17* | −·72* | 109 | 5623·11 | −·01 | 3242·52 | ·00 | −·20 | −·35 |
| | 36 482 | 7994·33 | −·11 | 5606·89 | −·10 | +·78* | +·11* | 110 | 5897·60 | −·02 | 4694·93 | −·02 | −·09 | −·28 |
| | Eros | 4220·18 | ·00 | 4131·15 | ·00 | ... | ... | | | | | Mean | −·02 | −·15 |
| January 8 5349 | 35 470 | 1516·53 | +·01 | 6471·09 | −·01 | −·04 | −·01 | 118 | 3705·36 | ·00 | 4363·88 | ·00 | −·07 | +·27 |
| | 34 432 | 1520·09 | ·00 | 3120·86 | ·00 | −·35 | +·06 | 119 | 3716·70 | ·00 | 4722·01 | ·00 | −·07 | −·31 |
| | 34 435 | 2041·45 | ·00 | 2438·62 | ·00 | −·24 | −·16 | 121 | 4253·37 | ·00 | 2683·11 | ·00 | −·19 | −·05 |
| | 34 437 | 2533·04 | ·00 | 5177·35 | ·00 | −·49 | +·07 | 122 | 4341·71 | ·00 | 2569·62 | ·00 | +·04 | −·11 |
| | 35 477 | 3476·33 | ·00 | 6319·52 | ·00 | +·15 | +·06 | 125 | 4603·19 | ·00 | 4854·46 | ·00 | −·17 | +·31 |
| | 34 442 | 3771·57 | ·00 | 4034·16 | ·00 | +·03 | −·18 | 124 | 4605·15 | ·00 | 5683·54 | ·00 | +·08 | −·09 |
| | 35 480 | 4079·20 | ·00 | 5364·47 | ·00 | +·54 | −·16 | 126 | 4606·47 | ·00 | 1269·96 | −·01 | −·30† | −·10† |
| | 35 490 | 5440·52 | ·00 | 6988·24 | ·00 | ·00 | −·01 | 128 | 5023·43 | ·00 | 1842·97 | −·01 | −·13† | −·12† |
| | 34 448 | 5706·61 | ·00 | 2717·81 | ·00 | +·09 | +·15 | | | | | | | |
| | 34 449 | 5741·00 | ·00 | 4404·71 | ·00 | +·13 | +·22 | | | | | Mean | −·06 | ·00 |
| | 34 457 | 6756·80 | ·00 | 3982·14 | ·00 | +·21 | −·03 | | | | | | | |
| | Eros | 3645·75 | ·00 | 4547·55 | ·00 | ... | ... | | | | | | | |
| January 8 5350 | 35 470 | 1514·50 | −·02 | 6491·50 | −·02 | −·17 | −·19 | 118 | 3715·52 | ·00 | 4396·77 | ·00 | −·24 | +·03 |
| | 34 432 | 1538·26 | −·05 | 3141·68 | −·02 | −·27 | +·29 | 119 | 3724·39 | ·00 | 4754·22 | ·00 | +·05 | +·11 |
| | 34 435 | 2063·54 | −·04 | 2462·49 | −·03 | −·09 | +·03 | 121 | 4273·19 | −·01 | 2719·25 | −·01 | +·06 | −·14 |
| | 34 437 | 2538·59 | −·01 | 5203·42 | ·00 | −·65 | +·07 | 122 | 4362·39 | −·01 | 2606·15 | −·01 | +·09 | −·07 |
| | 35 477 | 3474·57 | −·01 | 6350·56 | −·01 | +·04 | −·06 | 124 | 4606·84 | −·01 | 5720·70 | −·01 | +·05 | −·01 |
| | 34 442 | 3783·70 | ·00 | 4067·22 | ·00 | −·13 | −·15 | 126 | 4634·44 | −·02 | 1308·22 | −·03 | +·28† | −·05† |
| | 35 490 | 5433·85 | −·05 | 7029·75 | −·05 | +·10 | −·07 | 128 | 5047·73 | −·01 | 1883·23 | −·01 | +·51† | +·06† |
| | 35 494 | 5722·78 | −·03 | 5733·43 | −·03 | +·65 | −·01 | | | | | | | |
| | 34 448 | 5725·93 | −·01 | 2761·78 | −·01 | +·14 | +·12 | | | | | Mean | ·00 | −·02 |
| | 34 449 | 5749·98 | −·01 | 4448·62 | −·01 | +·24 | +·04 | | | | | | | |
| | 34 457 | 6768·25 | −·03 | 4031·51 | −·02 | +·10 | −·05 | | | | | | | |
| | Eros | 4178·20 | ·00 | 4180·74 | ·00 | ... | ... | | | | | | | |
| January 8 5351 | 35 470 | 1513·49 | −·02 | 6502·65 | −·02 | ·00 | −·16 | 119 | 3723·19 | ·00 | 4765·17 | ·00 | −·05 | −·20 |
| | 34 432 | 1536·74 | −·06 | 3153·19 | −·04 | −·09 | +·29 | 121 | 4271·75 | −·01 | 2730·00 | −·01 | −·14 | −·24 |
| | 34 435 | 2061·90 | −·05 | 2473·78 | −·05 | +·06 | +·14 | 122 | 4361·31 | −·01 | 2616·83 | −·01 | −·50 | −·12 |
| | 34 437 | 2537·59 | −·01 | 5214·44 | −·01 | −·77 | +·03 | 124 | 4605·96 | −·01 | 5731·18 | −·01 | −·30 | −·25 |

* Not used in forming the finally adopted values of *c.* and *f.* (Table IV.), the star being more than 55′ from the centre of the plate.
† Not used in forming the Mean Correction for Comparison Stars (Table X.), the star being more than 25′ from the centre of the plate.
The number given in column 9 is the reference number assigned to the comparison stars in Tables VIII. and IX.

TABLE II.—Measured Co-ordinates and Residuals, Astrographic 13-inch Refractor.

| Date and Plate No. | Reference Stars. | | | | | | | Comparison Stars. | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | No. in B.D. | *x*. | Refraction Correction applied. | *y*. | Refraction Correction applied. | Residuals. C—O. | | No. | *x*. | Refraction Correction applied. | *y*. | Refraction Correction applied. | Residuals. | |
| | | | | | | *x*. | *y*. | | | | | | *x*. | *y*. |
| 1901. | ° | " | " | " | " | " | " | | " | " | " | " | " | " |
| January 8 | 35 477 | 3473·46 | −·01 | 6361·21 | −·02 | +·12 | −·15 | 125 | 4608·72 | ·00 | 4902·61 | ·00 | −·32 | −·09 |
| 5351—*contd.* | 34 442 | 3782·50 | ·00 | 4077·94 | ·00 | −·33 | −·19 | 128 | 5046·25 | −·01 | 1894·04 | −·02 | +·15† | −·28† |
| | 35 490 | 5432·81 | −·06 | 7039·65 | −·07 | +·03 | −·13 | | | | | | | |
| | 35 494 | 5721·46 | −·03 | 5743·10 | −·03 | +·62 | +·19 | | | | | Mean | −·26 | −·18 |
| | 34 448 | 5724·33 | −·01 | 2772·04 | −·01 | −·04 | +·03 | | | | | | | |
| | 34 449 | 5748·49 | −·02 | 4458·53 | −·02 | +·20 | +·13 | | | | | | | |
| | 34 457 | 6766·53 | −·03 | 4041·39 | −·03 | +·14 | −·23 | | | | | | | |
| | Eros | 4211·19 | ·00 | 4165·71 | ·00 | ... | ... | | | | | | | |
| January 8 | 35 470 | 1521·09 | −·03 | 6506·98 | −·02 | −·22 | −·11 | 118 | 3720·00 | ·00 | 4410·31 | ·00 | −·19 | −·07 |
| 5352 | 34 432 | 1542·26 | −·08 | 3158·14 | −·07 | −·30 | +·20 | 119 | 3729·11 | ·00 | 4767·96 | ·00 | +·12 | −·31 |
| | 34 435 | 2066·85 | −·08 | 2478·39 | −·07 | −·05 | +·05 | 121 | 4276·73 | −·01 | 2732·17 | −·02 | −·36 | +·11 |
| | 34 437 | 2543·95 | −·01 | 5218·14 | −·01 | −·64 | ·00 | 122 | 4365·53 | −·01 | 2619·33 | −·02 | −·03 | −·16 |
| | 35 477 | 3480·47 | −·02 | 6363·75 | −·02 | +·21 | −·06 | 124 | 4612·34 | −·02 | 5732·83 | −·02 | −·08 | −·13 |
| | 34 442 | 3787·99 | ·00 | 4080·71 | ·00 | −·17 | −·21 | 125 | 4614·33 | −·01 | 4904·27 | −·01 | +·15 | +·16 |
| | 35 490 | 5440·13 | −·08 | 7040·49 | −·09 | +·04 | −·12 | 128 | 5050·42 | −·02 | 1895·79 | −·02 | +·15† | −·05† |
| | 35 494 | 5727·92 | −·05 | 5744·02 | −·05 | +·65 | +·06 | | | | | | | |
| | 34 448 | 5728·97 | −·01 | 2773·20 | −·01 | −·03 | +·11 | | | | | Mean | −·07 | −·07 |
| | 34 449 | 5754·25 | −·02 | 4459·51 | −·02 | +·14 | +·10 | | | | | | | |
| | 34 457 | 6771·66 | −·04 | 4041·32 | −·03 | +·34 | −·03 | | | | | | | |
| | Eros | 4251·36 | ·00 | 4142·21 | ·00 | ... | ... | | | | | | | |
| January 9 | 34 442 | 1629·63 | +·01 | 5579·71 | −·01 | ·00 | −·32 | 118 | 1563·78 | +·01 | 5909·96 | −·01 | +·04† | −·18† |
| 5353 | 35 480 | 1939·35 | +·01 | 6909·67 | −·01 | +·32 | −·16 | 119 | 1575·70 | +·01 | 6267·38 | −·01 | −·05† | −·03† |
| | 33 447 | 3480·20 | ·00 | 2199·60 | ·00 | +·19 | ·00 | 121 | 2109·62 | ·00 | 4228·05 | ·00 | −·14 | −·31 |
| | 34 448 | 3563·03 | ·00 | 4260·39 | ·00 | −·01 | +·20 | 122 | 2198·04 | ·00 | 4114·18 | ·00 | −·15 | −·10 |
| | 35 494 | 3582·46 | ·00 | 7232·97 | −·01 | +·30 | −·08 | 126 | 2460·69 | ·00 | 2814·53 | ·00 | −·18 | −·40 |
| | 34 449 | 3599·74 | ·00 | 5947·71 | ·00 | +·15 | −·16 | 125 | 2462·59 | +·01 | 6399·15 | −·01 | −·20† | +·01† |
| | 34 454 | 4295·11 | ·00 | 3353·30 | ·00 | −·31 | +·26 | 124 | 2465·78 | +·01 | 7227·81 | −·01 | −·04† | +·16† |
| | 34 457 | 4615·07 | ·00 | 5523·46 | ·00 | +·04 | −·24 | 128 | 2878·74 | ·00 | 3386·34 | ·00 | −·33 | +·16 |
| | 33 454 | 4877·91 | ·00 | 2867·38 | ·00 | −·24 | +·17 | 34° 449 | 3599·74 | ·00 | 5947·71 | ·00 | +·03 | −·21 |
| | 34 462 | 5894·68 | ·00 | 5069·56 | ·00 | −·23 | +·13 | 34° 457 | 4615·07 | ·00 | 5523·46 | ·00 | −·01 | −·05 |
| | 34 469 | 7015·40 | +·01 | 3419·39 | −·01 | +·04 | +·24 | 133 | 4966·54 | ·00 | 2745·62 | ·00 | +·08 | +·14 |
| | 34 471 | 7056·75 | +·01 | 3552·80 | −·01 | −·26 | −·04 | 135 | 5952·69 | ·00 | 4011·64 | ·00 | −·18 | +·02 |
| | Eros | 3618·84 | ·00 | 4571·75 | ·00 | ... | ... | | | | | Mean | −·11 | −·09 |
| January 9 | 34 442 | 1629·00 | ·00 | 5640·69 | ·00 | +·09 | −·27 | 118 | 1564·60 | ·00 | 5971·28 | ·00 | +·31† | −·15† |
| 5354 | 35 480 | 1945·46 | ·00 | 6969·11 | −·01 | +·40 | −·18 | 119 | 1578·46 | ·00 | 6328·68 | −·01 | +·08† | −·03† |
| | 33 447 | 3462·29 | ·00 | 2251·28 | ·00 | +·44 | −·07 | 121 | 2101·62 | ·00 | 4286·28 | ·00 | +·43 | +·05 |
| | 34 448 | 3555·74 | ·00 | 4311·56 | ·00 | +·05 | +·25 | 122 | 2189·70 | ·00 | 4172·25 | ·00 | +·18 | −·04 |
| | 34 449 | 3601·10 | ·00 | 5998·44 | ·00 | +·08 | +·01 | 126 | 2445·64 | ·00 | 2870·91 | ·00 | +·28 | +·04 |
| | 33 454 | 4283·24 | ·00 | 3400·69 | ·00 | −·29 | +·26 | 125 | 2465·62 | ·00 | 6456·00 | −·01 | +·31† | −·10† |
| | 34 457 | 4614·23 | ·00 | 5569·19 | ·00 | −·01 | −·28 | 124 | 2473·38 | ·00 | 7284·57 | −·01 | +·09† | +·10† |
| | 33 454 | 4863·66 | ·00 | 2912·08 | ·00 | −·29 | −·13 | 128 | 2866·47 | ·00 | 3441·17 | ·00 | +·24 | ·00 |
| | 34 462 | 5891·51 | ·00 | 5108·62 | ·00 | −·26 | +·21 | 34° 449 | 3601·10 | ·00 | 5998·44 | ·00 | −·09 | −·04 |
| | 34 469 | 7003·76 | ·00 | 3452·92 | ·00 | +·11 | +·10 | 34° 457 | 4614·23 | ·00 | 5569·19 | ·00 | −·11 | −·09 |
| | 34 471 | 7045·89 | ·00 | 3585·87 | ·00 | −·29 | +·09 | 133 | 4951·53 | ·00 | 2789·80 | ·00 | +·11 | −·09 |
| | | | | | | | | 135 | 5943·87 | ·00 | 4050·51 | ·00 | +·04 | +·22 |
| | Eros | 3813·21 | ·00 | 4473·22 | ·00 | ... | ... | | | | | | | |
| | | | | | | | | | | | | Mean | +·14 | +·01 |

* Not used in forming the finally adopted values of *c.* and *f.* (Table IV.), the star being more than 55′ from the centre of the plate.
† Not used in forming the Mean Correction for Comparison Stars (Table X.), the star being more than 25′ from the centre of the plate.
The number given in column 9 is the reference number assigned to the comparison stars in Tables VIII. and IX.

TABLE II.—Measured Co-ordinates and Residuals, Astrographic 13-inch Refractor.

| Date and Plate No. | Reference Stars. | | | | | | | Comparison Stars. | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | No. in B.D. | *x*. | Refraction Correction applied. | *y*. | Refraction Correction applied. | Residuals C—O. | | No. | *x*. | Refraction Correction applied. | *y*. | Refraction Correction applied. | Residuals. | |
| | | | | | | *x*. | *y*. | | | | | | *x*. | *y*. |
| 1901. | ° | ″ | ″ | ″ | ″ | ″ | ″ | | ″ | ″ | ″ | ″ | ″ | ″ |
| January 9<br>5355 | 34 442 | 1642·35 | ·00 | 5680·89 | ·00 | +·13 | −·30 | 118 | 1577·11 | ·00 | 6011·06 | ·00 | +·19† | +·08† |
| | 35 480 | 1954·85 | ·00 | 7010·25 | −·01 | +·40 | −·19 | 119 | 1589·75 | ·00 | 6368·69 | −·01 | +·11† | −·01† |
| | 33 447 | 3485·99 | ·00 | 2296·93 | ·00 | +·31 | −·09 | 121 | 2119·27 | ·00 | 4327·64 | ·00 | +·24 | +·28 |
| | 34 448 | 3573·27 | ·00 | 4357·54 | ·00 | −·09 | +·12 | 122 | 2207·68 | ·00 | 4213·76 | ·00 | +·01 | +·29 |
| | 34 449 | 3613·33 | ·00 | 6044·42 | ·00 | +·18 | +·11 | 126 | 2467·50 | ·00 | 2913·31 | ·00 | +·13 | +·24 |
| | 34 454 | 4303·50 | ·00 | 3448·75 | ·00 | −·42 | +·30 | 125 | 2476·47 | ·00 | 6498·72 | ·00 | +·41† | −·13† |
| | 34 457 | 4628·02 | ·00 | 5618·25 | ·00 | −·17 | −·22 | 124 | 2481·64 | ·00 | 7327·52 | −·01 | +·29† | −·12† |
| | 33 454 | 4885·09 | ·00 | 2961·88 | ·00 | −·11 | −·09 | 128 | 2886·81 | ·00 | 3484·86 | ·00 | −·09 | +·17 |
| | 34 462 | 5906·43 | ·00 | 5161·42 | ·00 | −·15 | +·35 | 34° 449 | 3613·33 | ·00 | 6044·42 | ·00 | +·01 | +·06 |
| | 34 469 | 7023·66 | ·00 | 3509·28 | ·00 | +·22 | −·01 | 34° 457 | 4628·02 | ·00 | 5618·25 | ·00 | −·27 | −·03 |
| | 34 471 | 7065·49 | ·00 | 3642·31 | ·00 | −·28 | +·03 | 133 | 4973·74 | ·00 | 2839·81 | ·00 | −·11 | −·01 |
| | | | | | | | | 135 | 5961·99 | ·00 | 4103·64 | ·00 | +·12 | −·05 |
| | Eros | 3854·16 | ·00 | 4501·93 | ·00 | ... | ... | | | | | | | |
| | | | | | | | | | | | | Mean | +·01 | +·12 |
| January 9<br>5356 | 34 442 | 1633·50 | −·02 | 5619·99 | −·02 | −·08 | −·23 | 119 | 1578·50 | −·02 | 6307·35 | −·02 | −·02† | +·11† |
| | 35 480 | 1941·08 | −·02 | 6949·77 | −·02 | +·36 | −·16 | 121 | 2114·88 | −·02 | 4268·59 | −·02 | +·16 | +·27 |
| | 33 447 | 3488·16 | −·03 | 2242·32 | −·03 | +·17 | −·11 | 122 | 2203·25 | −·02 | 4154·99 | −·02 | +·33 | +·29 |
| | 34 448 | 3568·17 | ·00 | 4302·28 | ·00 | −·20 | +·27 | 125 | 2464·85 | −·01 | 6439·86 | −·02 | −·17† | −·12† |
| | 35 494 | 3583·05 | −·03 | 7273·68 | −·05 | +·36 | +·17 | 124 | 2466·93 | −·02 | 7267·94 | −·03 | −·09† | +·34† |
| | 34 449 | 3602·44 | −·01 | 5988·89 | −·01 | −·04 | +·07 | 126 | 2468·18 | −·04 | 2855·68 | −·04 | −·22 | +·25 |
| | 34 454 | 4301·05 | ·00 | 3395·91 | ·00 | −·29 | +·35 | 128 | 2885·41 | −·02 | 3428·31 | −·02 | −·53 | +·04 |
| | 34 457 | 4617·93 | −·01 | 5565·60 | −·01 | −·11 | −·24 | 34° 449 | 3602·44 | −·01 | 5988·89 | −·01 | −·16 | +·02 |
| | 33 454 | 4884·36 | ·00 | 2910·89 | −·01 | −·25 | −·14 | 34° 457 | 4617·93 | −·01 | 5565·60 | −·01 | −·16 | −·05 |
| | 34 462 | 5897·83 | −·03 | 5112·43 | −·03 | −·50 | +·32 | 133 | 4973·29 | ·00 | 2789·08 | −·01 | −·09 | −·02 |
| | 34 469 | 7019·85 | −·03 | 3464·06 | −·02 | +·40 | −·07 | 135 | 5956·87 | −·02 | 4055·30 | −·01 | +·01 | −·19 |
| | 34 471 | 7060·90 | −·04 | 3597·20 | −·03 | +·18 | −·18 | | | | | | | |
| | | | | | | | | | | | | Mean | −·02 | +·08 |
| | Eros | 4239·33 | ·00 | 4157·01 | ·00 | ... | ... | | | | | | | |
| January 13<br>5359 | 32 483 | 841·20 | −·04 | 5356·26 | −·02 | −·41 | +·28 | 147 | 3036·18 | −·01 | 4729·17 | ·00 | ... | ... |
| | 32 484 | 861·45 | −·08 | 2903·27 | −·07 | +·06 | +·21 | 149 | 4002·25 | ·00 | 5219·39 | ·00 | ... | ... |
| | 33 481 | 876·02 | −·03 | 6990·30 | −·01 | +·26* | +·14* | 153 | 5057·30 | ·00 | 3991·78 | ·00 | −·32 | +·02 |
| | 33 493 | 2926·24 | −·01 | 6330·09 | −·01 | +·09 | ·00 | 155 | 5758·74 | −·01 | 2228·95 | −·01 | +·03 | +·16 |
| | 32 490 | 3004·43 | −·02 | 3215·53 | −·02 | −·47 | −·27 | 159 | 6252·85 | −·01 | 3711·69 | −·01 | +·03 | +·12 |
| | 33 494 | 3504·07 | −·04 | 7795·34 | −·05 | −·23 | −·06 | 160 | 6291·07 | −·01 | 1949·68 | −·01 | −·04 | −·17 |
| | 32 498 | 4849·80 | −·01 | 2688·42 | −·01 | +·15 | −·10 | 167 | 7107·60 | −·03 | 2487·08 | −·02 | +·08 | −·08 |
| | 33 512 | 6644·43 | −·06 | 5885·40 | −·06 | −·04 | +·04 | 173 | 7457·09 | −·05 | 4003·53 | −·03 | +·28 | −·04 |
| | 32 507 | 7837·60 | −·06 | 4244·49 | −·05 | +·60* | −·14* | | | | | | | |
| | 32 508 | 7849·94 | −·05 | 3052·37 | −·03 | −·16 | −·07 | | | | | Mean | +·01 | ·00 |
| | Eros | 4177·01 | :00 | 4190·48 | ·00 | ... | ... | | | | | | | |
| January 14<br>5365 | 32 490 | 582·96 | −·05 | 4764·94 | −·03 | +·48* | −·18* | 148 | 1550·09 | −·02 | 5331·33 | −·01 | +·35† | −·11† |
| | 32 498 | 2425·44 | −·01 | 4224·96 | −·01 | +·61 | −·03 | 153 | 2641·86 | −·01 | 5527·17 | ·00 | +·34 | −·13 |
| | 31 477 | 3365·06 | −·04 | 1494·07 | −·04 | −·13 | +·61 | 155 | 3331·37 | −·01 | 3759·25 | ·00 | +·19 | +·23 |
| | 33 512 | 4243·10 | −·03 | 7410·27 | −·04 | +·05 | −·55 | 159 | 3835·96 | ·00 | 5238·85 | ·00 | +·16 | −·20 |
| | 32 507 | 5425·28 | −·02 | 5760·29 | −·02 | −·16 | −·14 | 160 | 3861·68 | ·00 | 3475·94 | ·00 | +·14 | +·33 |
| | 32 508 | 5428·58 | −·01 | 4567·83 | −·01 | −·40 | +·32 | 167 | 4682·19 | ·00 | 4007·97 | ·00 | −·04 | +·07 |
| | 31 483 | 5544·06 | −·01 | 1932·21 | −·01 | −·35 | +·16 | 173 | 5042·75 | −·01 | 5522·08 | −·01 | −·17 | −·13 |
| | 31 490 | 6488·09 | −·02 | 1443·12 | −·02 | −·43 | −·33 | 175 | 5612·24 | −·01 | 1552·79 | −·02 | −·32† | +·11† |
| | 31 493 | 6896·56 | −·02 | 2853·80 | −·01 | +·14 | +·25 | 178 | 5997·94 | −·01 | 1447·02 | −·02 | +·03† | +·14† |
| | 32 517 | 7657·49 | −·05 | 4227·31 | −·03 | +·16 | −·13 | 180 | 6259·49 | −·01 | 3546·89 | −·01 | ·00† | +·11† |
| | | | | | | | | 189 | 7612·04 | −·03 | 2793·67 | −·02 | −·03† | +·02† |
| | Eros | 4135·29 | ·00 | 4207·76 | ·00 | ... | ... | 190 | 7802·57 | −·05 | 3226·24 | −·03 | +·35† | +·21† |
| | | | | | | | | | | | | Mean | +·10 | +·03 |

* Not used in forming the finally adopted values of *c.* and *f.* (Table IV.), the star being more than 55′ from the centre of the plate.
† Not used in forming the Mean Correction for Comparison Stars (Table X.), the star being more than 25′ from the centre of the plate.
The number given in column 9 is the reference number assigned to the comparison stars in Tables VIII. and IX.

Table II.—Measured Co-ordinates and Residuals, Astrographic 13-inch Refractor.

| Date and Plate No. | Reference Stars. | | | | | | | Comparison Stars. | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | No. in B.D. | x. | Refraction Correction applied. | y. | Refraction Correction applied. | Residuals C—O. | | No. | x. | Refraction Correction applied. | y. | Refraction Correction applied. | Residuals. | |
| | | | | | | x. | y | | | | | | x. | y. |
| | ° | ″ | ″ | ″ | ″ | ″ | ″ | | ″ | ″ | ″ | ″ | ″ | ″ |
| 1901.<br>January 14<br>5366 | 32 490 | 582·97 | −·06 | 4767·51 | −·04 | −·21* | +·02* | 148 | 1549·72 | −·03 | 5333·70 | −·02 | −·13† | +·04† |
| | 32 498 | 2424·58 | −·02 | 4227·46 | −·01 | +·61 | −·10 | 153 | 2641·31 | −·01 | 5529·26 | −·01 | −·06 | +·06 |
| | 31 477 | 3363·90 | −·04 | 1496·74 | −·05 | +·02 | +·44 | 159 | 3834·97 | ·00 | 5240·82 | ·00 | +·09 | −·10 |
| | 33 512 | 4242·02 | −·04 | 7411·56 | −·05 | +·17 | −·11 | 160 | 3860·85 | ·00 | 3478·30 | ·00 | −·12 | +·19 |
| | 32 507 | 5424·10 | −·03 | 5761·79 | −·03 | −·09 | ·00 | 167 | 4681·12 | ·00 | 4009·91 | ·00 | −·13 | +·13 |
| | 32 508 | 5427·36 | −·01 | 4569·69 | −·01 | −·30 | +·24 | 173 | 5041·56 | −·01 | 5523·66 | −·02 | −·13 | +·06 |
| | 31 483 | 5542·62 | −·01 | 1934·29 | −·02 | −·09 | +·08 | 175 | 5610·73 | −·02 | 1554·81 | −·02 | −·11† | +·14† |
| | 31 490 | 6487·14 | −·02 | 1444·87 | −·02 | −·76 | −·22 | 178 | 5996·72 | −·02 | 1449·06 | −·02 | −·08† | +·08† |
| | 31 493 | 6895·05 | −·03 | 2855·75 | −·02 | +·55 | −·06 | 180 | 6258·30 | −·02 | 3548·83 | −·01 | −·12† | −·11† |
| | 32 517 | 7656·17 | −·07 | 4228·74 | −·05 | +·15 | −·24 | 189 | 7610·48 | −·04 | 2795·10 | −·03 | +·08† | +·10† |
| | Eros | 4176·38 | ·00 | 4182·44 | ·00 | … | … | | | | | Mean | −·07 | +·07 |
| January 14<br>5367 | 32 490 | 586·20 | −·07 | 4767·22 | −·05 | −·22* | −·04* | 148 | 1552·88 | −·03 | 5333·14 | −·02 | −·28† | +·08† |
| | 32 498 | 2427·88 | −·02 | 4227·06 | −·02 | +·40 | −·15 | 153 | 2644·32 | −·01 | 5528·58 | −·01 | −·21 | +·05 |
| | 31 477 | 3367·31 | −·06 | 1496·67 | −·07 | +·07 | +·39 | 155 | 3333·50 | −·01 | 3761·24 | −·01 | +·09 | +·06 |
| | 33 512 | 4244·50 | −·05 | 7410·30 | −·07 | +·02 | −·01 | 159 | 3837·71 | ·00 | 5239·97 | ·00 | +·11 | −·03 |
| | 32 507 | 5426·59 | −·04 | 5760·64 | −·04 | −·11 | +·12 | 160 | 3863·97 | −·01 | 3477·84 | −·01 | −·19 | +·16 |
| | 32 508 | 5429·95 | −·01 | 4568·84 | −·01 | −·22 | +·23 | 167 | 4684·07 | ·00 | 4009·22 | ·00 | −·22 | +·15 |
| | 31 483 | 5545·78 | −·01 | 1933·86 | −·02 | −·14 | +·08 | 173 | 5044·31 | −·02 | 5522·80 | −·02 | −·32 | −·04 |
| | 31 490 | 6489·96 | −·02 | 1444·61 | −·03 | −·50 | −·42 | 175 | 5613·82 | −·02 | 1554·56 | −·03 | −·02† | +·01† |
| | 31 493 | 6897·86 | −·03 | 2854·99 | −·02 | +·33 | −·03 | 178 | 5999·72 | −·02 | 1448·92 | −·03 | +·06† | −·19† |
| | 32 517 | 7658·43 | −·09 | 4227·68 | −·07 | +·35 | −·18 | 180 | 6260·88 | −·02 | 3547·90 | −·02 | +·06† | +·04† |
| | | | | | | | | 189 | 7612·89 | −·05 | 2794·48 | −·03 | +·39† | −·08† |
| | Eros | 4219·87 | ·00 | 4154·73 | ·00 | … | … | | | | | | | |
| | | | | | | | | | | | | Mean | −·12 | +·06 |
| January 15<br>5368 | 31 477 | 899·49 | +·01 | 3017·90 | −·01 | −·24 | −·08 | 155 | 882·56 | +·01 | 5283·65 | −·01 | −·07† | −·17† |
| | 32 508 | 2986·10 | ·00 | 6077·91 | −·01 | −·06 | +·15 | 159 | 1398·24 | +·01 | 6759·82 | −·01 | −·06† | +·01† |
| | 32 507 | 2992·10 | +·01 | 7270·08 | −·01 | −·26 | +·40 | 160 | 1410·87 | +·01 | 4996·70 | −·01 | +·03† | −·12† |
| | 31 483 | 3081·67 | ·00 | 3440·97 | ·00 | +·30 | +·01 | 167 | 2235·37 | ·00 | 5523·06 | ·00 | +·13 | −·12 |
| | 31 490 | 4022·41 | ·00 | 2945·14 | ·00 | ·00 | −·06 | 173 | 2607·34 | +·01 | 7034·74 | −·01 | −·04† | +·13† |
| | 31 493 | 4441·92 | ·00 | 4353·55 | ·00 | +·13 | +·10 | 175 | 3147·01 | ·00 | 3061·16 | ·00 | +·28 | −·09 |
| | 32 517 | 5213·21 | ·00 | 5722·00 | ·00 | +·17 | −·28 | 178 | 3532·65 | ·00 | 2952·47 | ·00 | −·04 | +·30 |
| | 31 497 | 6314·41 | +·01 | 1782·37 | −·01 | −·01 | +·01 | 180 | 3809·73 | ·00 | 5051·11 | ·00 | +·13 | −·08 |
| | 32 522 | 6452·38 | ·00 | 6373·48 | −·01 | −·27 | −·19 | 189 | 5156·93 | ·00 | 4288·35 | ·00 | −·06 | +·12 |
| | 31 500 | 6841·75 | ·00 | 4283·74 | ·00 | +·28 | −·02 | 190 | 5351·10 | ·00 | 4719·97 | ·00 | −·06 | −·02 |
| | Eros | 3536·26 | ·00 | 4576·92 | ·00 | … | … | | | | | Mean | +·06 | +·02 |
| January 15<br>5369 | 31 477 | 905·78 | ·00 | 3017·87 | −·01 | −·13 | +·14 | 155 | 888·99 | +·01 | 5283·79 | −·01 | −·14† | −·09† |
| | 32 508 | 2992·47 | ·00 | 6077·98 | −·01 | −·06 | +·28 | 159 | 1404·91 | +·01 | 6759·83 | −·01 | −·37† | +·22† |
| | 32 507 | 2998·53 | ·00 | 7270·44 | −·01 | −·32 | +·25 | 160 | 1417·27 | ·00 | 4996·88 | ·00 | ·00† | −·09† |
| | 31 483 | 3088·19 | ·00 | 3441·18 | ·00 | +·19 | −·02 | 167 | 2241·81 | ·00 | 5523·09 | ·00 | +·06 | +·06 |
| | 31 490 | 4029·00 | ·00 | 2945·46 | ·00 | −·17 | −·23 | 173 | 2613·66 | +·01 | 7035·20 | −·01 | ·00† | −·10† |
| | 31 493 | 4448·53 | ·00 | 4353·88 | ·00 | −·07 | −·06 | 175 | 3153·52 | ·00 | 3061·38 | ·00 | +·18 | −·14 |
| | 32 517 | 5219·53 | ·00 | 5722·07 | ·00 | +·25 | −·17 | 178 | 3539·08 | ·00 | 2952·83 | ·00 | −·07 | +·10 |
| | 31 497 | 6320·55 | +·01 | 1782·50 | −·01 | +·31 | ·00 | 180 | 3816·15 | ·00 | 5051·41 | ·00 | +·10 | −·19 |
| | 32 522 | 6458·74 | ·00 | 6373·55 | −·01 | −·22 | −·10 | 189 | 5163·41 | ·00 | 4288·54 | ·00 | −·13 | +·10 |
| | 31 500 | 6848·29 | ·00 | 4283·96 | ·00 | +·18 | −·09 | 190 | 5357·67 | ·00 | 4720·20 | ·00 | −·22 | −·07 |
| | Eros | 3580·28 | ·00 | 4552·98 | ·00 | … | … | | | | | Mean | −·01 | −·02 |

* Not used in forming the finally adopted values of *c.* and *f.* (Table IV.), the star being more than 55′ from the centre of the plate.
† Not used in forming the Mean Correction for Comparison Stars (Table X.), the star being more than 25′ from the centre of the plate.
The number given in column 9 is the reference number assigned to the comparison stars in Tables VIII. and IX.

## TABLE II.—Measured Co-ordinates and Residuals, Astrographic 13-inch Refractor.

| Date and Plate No. | Reference Stars. | | | | | | | Comparison Stars. | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | No. in B.D. | x. | Refraction Correction applied. | y. | Refraction Correction applied. | Residuals C—O. | | No. | x. | Refraction Correction applied. | y. | Refraction Correction applied. | Residuals. | |
| | | | | | | x. | y. | | | | | | x. | y. |
| 1901. | ° | " | " | " | " | " | " | | " | " | " | " | " | " |
| January 15 | 31 477 | 931·71 | −·08 | 3062·45 | −·06 | +·17 | +·39 | 155 | 915·27 | −·04 | 5328·07 | −·02 | −·05† | −·20† |
| 5371 | 32 508 | 3018·50 | −·01 | 6120·55 | −·01 | −·42 | +·05 | 159 | 1430·83 | −·02 | 6803·42 | −·02 | −·05† | −·05† |
| | 32 507 | 3024·07 | −·02 | 7312·21 | −·03 | −·14 | +·45 | 160 | 1443·23 | −·03 | 5040·90 | −·02 | +·19† | −·27† |
| | 31 483 | 3113·86 | −·01 | 3484·17 | −·01 | +·01 | +·03 | 167 | 2267·75 | −·01 | 5566·22 | −·01 | +·01 | −·01 |
| | 31 490 | 4054·42 | −·01 | 2988·12 | −·01 | −·45 | −·40 | 173 | 2639·46 | −·02 | 7077·54 | −·03 | +·03† | −·13† |
| | 31 493 | 4473·57 | ·00 | 4395·58 | ·00 | −·05 | −·03 | 175 | 3178·99 | −·01 | 3104·40 | −·01 | +·15 | −·04 |
| | 32 517 | 5244·59 | −·03 | 5762·89 | −·03 | +·05 | −·25 | 178 | 3564·41 | −·01 | 2995·84 | −·01 | −·08 | −·05 |
| | 31 497 | 6344·92 | −·01 | 1823·77 | −·01 | +·21 | −·17 | 189 | 5188·07 | −·01 | 4329·92 | −·01 | +·02 | −·06 |
| | 32 522 | 6482·85 | −·07 | 6413·16 | −·07 | +·12 | −·10 | 190 | 5382·32 | −·01 | 4761·18 | −·01 | −·11 | −·12 |
| | 31 500 | 6872·13 | −·04 | 4323·76 | −·03 | +·54 | +·04 | | | | | | | |
| | | | | | | | | | | | | Mean | ·00 | −·06 |
| | Eros | 4185·85 | ·00 | 4215·15 | ·00 | ... | ... | | | | | | | |
| January 15 | 31 477 | 935·69 | −·09 | 3050·39 | −·07 | −·08 | +·10 | 155 | 917·41 | −·05 | 5315·81 | −·03 | +·22† | −·51† |
| 5372 | 32 508 | 3020·11 | −·01 | 6108·96 | −·01 | −·25 | −·13 | 159 | 1432·55 | −·03 | 6790·71 | −·02 | −·25† | +·18† |
| | 32 507 | 3024·80 | −·02 | 7300·24 | −·04 | +·22 | +·55 | 160 | 1446·20 | −·03 | 5028·71 | −·02 | −·24† | −·40† |
| | 31 483 | 3117·01 | −·01 | 3472·91 | −·01 | +·17 | −·19 | 167 | 2269·87 | −·01 | 5554·35 | −·01 | +·06 | −·17 |
| | 31 490 | 4058·41 | ·00 | 2977·25 | −.01 | −·92 | −·60 | 173 | 2640·46 | −·02 | 7065·18 | −·03 | +·30† | +·23† |
| | 31 493 | 4475·64 | −·01 | 4384·31 | −·01 | +·55 | +·22 | 175 | 3182·78 | −·01 | 3092·89 | −·01 | −·11 | +·03 |
| | 32 517 | 5246·51 | −·03 | 5751·83 | −·03 | −·06 | −·02 | 178 | 3567·67 | −·01 | 2984·58 | −·01 | +·20 | −·07 |
| | 31 497 | 6349·07 | −·02 | 1813·66 | −·02 | +·07 | −·09 | 180 | 3844·06 | ·00 | 5081·66 | ·00 | −·18 | +·23 |
| | 32 522 | 6484·54 | −·08 | 6402·56 | −·08 | −·23 | +·13 | 189 | 5191·05 | −·01 | 4319·36 | −·01 | −·31 | −·23 |
| | 31 500 | 6874·71 | −·05 | 4313·78 | −·03 | +·49 | ·00 | | | | | | | |
| | | | | | | | | | | | | Mean | −·07 | −·04 |
| | Eros | 4220·78 | ·00 | 4182·93 | ·00 | | | | | | | | | |
| January 17 | 31 497 | 1300·44 | −·03 | 4889·48 | −·02 | −·38 | +·07 | 192 | 3711·77 | −·01 | 5991·05 | −·01 | ... | ... |
| 5379 | 31 500 | 1869·42 | −·02 | 7380·91 | −·02 | +·10* | −·04* | 193 | 4915·95 | ·00 | 2740·67 | −·01 | ... | ... |
| | 30 464 | 3050·93 | −·02 | 2718·98 | −·02 | −·63 | −·06 | 194 | 5225·69 | ·00 | 3858·14 | ·00 | ... | ... |
| | 30 465 | 3207·32 | ·00 | 4654·49 | ·00 | −·36 | −·03 | 195 | 6480·77 | −·02 | 4117·09 | −·01 | ... | ... |
| | 30 466 | 3703·70 | −·02 | 2134·42 | −·02 | −·15 | −·15 | | | | | | | |
| | 30 469 | 4845·05 | ·00 | 4430·87 | ·00 | −·14 | +·12 | | | | | | | |
| | 31 511 | 4942·20 | −·02 | 6233·99 | −·03 | +·29 | −·21 | | | | | | | |
| | 30 474 | 6326·12 | −·02 | 1164·90 | −·02 | +·42* | −·41* | | | | | | | |
| | 30 477 | 6589·77 | −·02 | 3038·16 | −·01 | −·22 | +·30 | | | | | | | |
| | 29 508 | 6746·05 | −·02 | 1036·56 | −·02 | +·35* | −·46* | | | | | | | |
| | 31 524 | 7305·23 | −·07 | 6033·32 | −·07 | +·67* | +·39* | | | | | | | |
| | Eros | 4146·69 | ·00 | 4229·92 | ·00 | | | | | | | | | |
| January 23 | 28 507 | 1065·83 | −·02 | 5369·84 | −·01 | −·10 | −·12 | 196 | 2297·91 | −·01 | 4710·01 | ·00 | ... | ... |
| 5387 | 28 511 | 3782·19 | ·00 | 3669·25 | ·00 | +·05 | −·02 | 197 | 3320·97 | ·00 | 5596·71 | ·00 | ... | ... |
| | 27 488 | 3783·45 | −·01 | 2683·55 | −·01 | −·39 | −·01 | | | | | | | |
| | 28 514 | 4877·32 | ·00 | 3513·03 | ·00 | +·35 | +·02 | | | | | | | |
| | 28 516 | 6356·40 | −·02 | 4736·56 | −·01 | −·09 | +·11 | | | | | | | |
| | 28 517 | 6621·01 | −·01 | 3945·47 | −·01 | +·15 | ·00 | | | | | | | |
| January 24 | 27 488 | 491·63 | −·08 | 4401·82 | −·06 | −·53* | +·08* | 198 | 2311·13 | −·01 | 5230·81 | −·01 | ... | ... |
| 5390 | 28 511 | 505·08 | −·06 | 5387·60 | −·04 | +·23* | −·24* | 199 | 2980·44 | −·01 | 3803·11 | −·01 | ... | ... |
| | 28 514 | 1597·73 | −·03 | 5214·00 | −·02 | +·49 | −·15 | 200 | 3415·59 | −·01 | 3461·37 | −·01 | ... | ... |

* Not used in forming the finally adopted values of *c.* and *f.* (Table IV.), the star being more than 55′ from the centre of the plate.
† Not used in forming the Mean Correction for Comparison Stars (Table X.), the star being more than 25′ from the centre of the plate.
The number given in column 9 is the reference number assigned to the comparison stars in Tables VIII. and IX.

### TABLE II.—Measured Co-ordinates and Residuals, Astrographic 13-inch Refractor.

| Date and Plate No. | Reference Stars. | | | | | | | Comparison Stars. | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | No. in B.D. | x. | Refraction Correction applied. | y. | Refraction Correction applied. | Residuals. C—O. x. | Residuals. C—O. y. | No. | x. | Refraction Correction applied. | y. | Refraction Correction applied. | Residuals. x. | Residuals. y. |
| 1901. | ° | ″ | ″ | ″ | ″ | ″ | ″ | | ″ | ″ | ″ | ″ | ″ | ″ |
| January 24<br>5390—*contd.* | 27 492 | 2514·08 | −·10 | 991·43 | −·11 | +·13 | +·18 | 201 | 4719·62 | −·01 | 5439·49 | −·01 | ... | ... |
| | 28 516 | 3095·29 | −·01 | 6413·72 | −·02 | −·18 | −·13 | 202 | 4729·15 | ·00 | 3915·61 | ·00 | ... | ... |
| | 28 517 | 3347·54 | ·00 | 5619·01 | −·01 | +·16 | −·52 | | | | | | | |
| | 27 500 | 4565·82 | −·03 | 1222·21 | −·05 | −·14 | +·38 | | | | | | | |
| | 27 501 | 5187·26 | −·02 | 1508·41 | −·03 | −·09 | −·09 | | | | | | | |
| | 26 550 | 5642·05 | −·04 | 484·40 | −·06 | −·07* | −·09* | | | | | | | |
| | 28 526 | 6625·97 | −·05 | 4997·33 | −·04 | −·16 | +·24 | | | | | | | |
| | 28 532 | 8023·12 | −·11 | 5237·90 | −·10 | +·21* | +·33* | | | | | | | |
| | Eros | 3689·36 | ·00 | 4369·29 | ·00 | | | | | | | | | |
| January 29<br>5393 | 26 572 | 945·76 | −·05 | 4978·63 | −·03 | −·08 | −·24 | 203 | 2913·23 | −·01 | 4732·73 | ·00 | ... | ... |
| | 26 574 | 1250·14 | −·02 | 5852·45 | −·02 | −·70 | −·01 | 204 | 3877·99 | ·00 | 5373·12 | −·01 | ... | ... |
| | 26 579 | 1890·54 | −·02 | 7629·28 | −·04 | +·17* | +·46* | 205 | 5777·47 | −·01 | 3980·27 | −·01 | ... | ... |
| | 25 580 | 2722·93 | −·03 | 2784·40 | −·03 | −·22 | +·13 | | | | | | | |
| | 25 584 | 4605·07 | ·00 | 3259·48 | ·00 | −·19 | −·02 | | | | | | | |
| | 26 590 | 4613·99 | −·05 | 7203·26 | −·06 | −·22 | +·15 | | | | | | | |
| | 26 596 | 5181·59 | −·03 | 6001·31 | −·03 | −·48 | −·04 | | | | | | | |
| | 26 601 | 7008·57 | −·05 | 4890·53 | −·05 | +·26 | +·21 | | | | | | | |
| | 25 593 | 7563·05 | −·03 | 1686·12 | −·03 | −·23* | +·02* | | | | | | | |
| | 25 598 | 7975·77 | −·06 | 3293·51 | −·04 | +·77* | −·27* | | | | | | | |
| | 25 597 | 7989·94 | −·05 | 2014·20 | −·03 | +·38* | −·15* | | | | | | | |
| | 25 599 | 8052·20 | −·08 | 4213·98 | −·06 | +·48* | −·23* | | | | | | | |
| February 1<br>5394 | 24 568 | 2466·69 | ·00 | 5045·63 | ·00 | +·08 | −·04 | 206 | 4169·34 | ·00 | 5998·33 | −·01 | ... | ... |
| | 24 571 | 2745·18 | ·00 | 3613·89 | ·00 | −·11 | −·46 | 207 | 4761·07 | ·00 | 2916·38 | ·00† | ... | ... |
| | 25 620 | 3207·00 | ·00 | 6540·48 | −·01 | +·21 | −·30 | 208 | 5188·48 | ·00 | 5143·60 | ·00 | ... | ... |
| | 23 561 | 3778·89 | ·00 | 1432·67 | −·01 | −·18 | +·05 | 209 | 5794·19 | ·00 | 4031·80 | ·00 | ... | ... |
| | 25 624 | 4521·23 | ·00 | 5762·23 | ·00 | −·32 | +·31 | | | | | | | |
| | 24 578 | 4681·75 | ·00 | 1850·14 | −·01 | −·13 | −·04 | | | | | | | |
| | 24 583 | 5440·88 | ·00 | 4261·03 | ·00 | −·08 | +·10 | | | | | | | |
| | 24 587 | 6078·16 | ·00 | 4283·79 | ·00 | +·07 | +·24 | | | | | | | |
| | 24 589 | 6657·85 | ·00 | 2667·56 | −·01 | −·02 | +·07 | | | | | | | |
| | 25 637 | 6808·94 | −·01 | 5619·62 | −·01 | +·51* | +·09* | | | | | | | |
| | Eros | 3670·13 | ·00 | 4457·65 | ·00 | | | | | | | | | |
| February 3<br>5397 | 23 584 | 2372·10 | −·03 | 2906·82 | −·03 | +·10 | +·05 | 210 | 3121·57 | −·01 | 4364·47 | ·00 | ... | ... |
| | 24 595 | 2464·42 | −·02 | 7042·63 | −·03 | +·41 | −·52 | 211 | 3260·90 | −·01 | 5918·40 | −·01 | ... | ... |
| | 23 586 | 3003·46 | −·03 | 2441·62 | −·03 | +·23 | +·44 | 212 | 5178·32 | −·02 | 5551·09 | −·02 | ... | ... |
| | 23 589 | 3682·91 | −·03 | 1599·41 | −·05 | +·06 | ·00 | 213 | 5305·55 | −·01 | 4360·76 | −·01 | ... | ... |
| | 24 598 | 4151·91 | −·05 | 7674·32 | −·07 | −·02 | −·21 | 214 | 5317·59 | −·01 | 2547·83 | −·01 | ... | ... |
| | 24 599 | 4353·47 | ·00 | 4719·32 | ·00 | −·40 | −·13 | | | | | | | |
| | 23 594 | 5099·66 | ·00 | 3352·27 | ·00 | −·39 | −·03 | | | | | | | |
| | 23 600 | 5691·18 | −·02 | 1717·64 | −·02 | −·46 | −·12 | | | | | | | |
| | 24 602 | 5811·30 | −·09 | 7436·64 | −·10 | +·52* | +·41* | | | | | | | |
| | 24 605 | 6368·10 | −·05 | 5568·52 | −·05 | −·07 | +·11 | | | | | | | |
| | Eros | 4137·09 | ·00 | 4258·23 | ·00 | ... | ... | | | | | | | |
| February 3<br>5398 | 23 584 | 2363·64 | −·05 | 2875·10 | −·05 | +·10 | +·22 | 210 | 3101·63 | −·01 | 4338·67 | ·00 | ... | ... |
| | 24 595 | 2424·15 | −·02 | 7011·05 | −·03 | +·15 | −·25 | 211 | 3229·51 | −·01 | 5893·30 | −·01 | ... | ... |
| | 23 589 | 3684·54 | −·05 | 1578·13 | −·07 | −·02 | −·26 | 212 | 5149·02 | −·03 | 5540·64 | −·03 | ... | ... |

* Not used in forming the finally adopted values of *c.* and *f.* (Table IV.), the star being more than 55′ from the centre of the plate.
† Not used in forming the Mean Correction for Comparison Stars (Table X.), the star being more than 25′ from the centre of the plate.
The number given in column 9 is the reference number assigned to the comparison stars in Tables VIII. and IX.

TABLE II.—Measured Co-ordinates and Residuals, Astrographic 13-inch Refractor.

| Date and Plate No. | Reference Stars. | | | | | | | Comparison Stars. | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | No. in B.D. | x. | Refraction Correction applied. | y. | Refraction Correction applied. | Residuals C—O. | | No. | x. | Refraction Correction applied. | y. | Refraction Correction applied. | Residuals. | |
| | | | | | | x. | y. | | | | | | x. | y. |
| 1901. | ° | " | " | " | " | " | " | | " | " | " | " | " | " |
| February 3 | 24 598 | 4106·49 | −·06 | 7655·28 | −·09 | −·18 | +·17 | 213 | 5285·61 | −·01 | 4351·74 | −·01 | ... | ... |
| 5398–*contd.* | 24 599 | 4330·69 | ·00 | 4702·58 | ·00 | −·32 | −·22 | 214 | 5311·10 | −·01 | 2538·66 | −·01 | ... | ... |
| | 23 594 | 5087·39 | ·00 | 3341·11 | ·00 | −·29 | +·07 | | | | | | | |
| | 23 600 | 5691·10 | −·02 | 1711·24 | −·03 | +·06 | −·16 | | | | | | | |
| | 24 602 | 5767·21 | −·12 | 7430·55 | −·13 | +·71* | +·37* | | | | | | | |
| | 24 605 | 6338·61 | −·06 | 5566·86 | −·06 | −·07 | +·03 | | | | | | | |
| | Eros | 4157·00 | ·00 | 4220·98 | ·00 | ... | ... | | | | | | | |
| February 5 | 22 613 | 485·71 | −·09 | 3775·67 | −·07 | +·38* | −·10* | 215 | 3465·78 | ·00 | 4580·66 | ·00 | ... | ... |
| 5404 | 22 617(1) | 1157·53 | −·07 | 3064·68 | −·07 | −·43 | +·13 | 216 | 3823·13 | ·00 | 3825·31 | ·00 | ... | ... |
| | 22 617(2) | 1163·70 | −·07 | 3059·99 | −·07 | −·27 | +·16 | | | | | | | |
| | 23 606 | 3496·75 | −·03 | 7393·69 | −·05 | −·15 | +·40 | | | | | | | |
| | 23 609 | 3959·17 | −·02 | 6331·14 | −·03 | −·31 | −·13 | | | | | | | |
| | 23 613 | 4705·41 | −·01 | 5225·08 | −·01 | −·05 | −·25 | | | | | | | |
| | 22 629 | 4845·43 | ·00 | 2962·63 | ·00 | +·12 | −·03 | | | | | | | |
| | 23 617 | 5843·14 | −·02 | 4230·36 | −·01 | +·01 | +·13 | | | | | | | |
| | 23 624 | 7666·39 | −·11 | 5525·50 | −·09 | +·34* | +·30* | | | | | | | |
| | 22 637(1) | 7737·89 | −·05 | 2740·02 | −·03 | +·25* | −·31* | | | | | | | |
| | 22 637(2) | 7738·89 | −·05 | 2745·43 | −·03 | +·06* | −·32* | | | | | | | |
| February 6 | 23 611 | 1278·85 | ·00 | 5582·03 | −·01 | +·11 | +·03 | 217 | 2480·57 | ·00 | 3157·98 | ·00 | ... | ... |
| 5407 | 23 613 | 1636·64 | ·00 | 6617·87 | −·01 | +·25* | +·05* | 218 | 3893·15 | ·00 | 3501·52 | ·00 | ... | ... |
| | 22 629 | 1740·09 | ·00 | 4352·70 | ·00 | +·02 | +·12 | 219 | 4226·12 | ·00 | 5173·92 | ·00 | ... | ... |
| | 23 617 | 2758·65 | ·00 | 5605·37 | ·00 | +·11 | +·08 | 220 | 5123·45 | ·00 | 4793·26 | ·00 | ... | ... |
| | 23 624 | 4603·77 | ·00 | 6872·32 | −·01 | +·04 | +·07 | 221 | 5867·99 | ·00 | 3138·52 | ·00 | ... | ... |
| | 22 637(1) | 4629·41 | ·00 | 4085·02 | ·00 | +·01 | −·05 | | | | | | | |
| | 22 637(2) | 4630·28 | ·00 | 4090·65 | ·00 | +·01 | −·29 | | | | | | | |
| | 23 632 | 5777·03 | −·01 | 7268·58 | −·02 | −·30 | +·02 | | | | | | | |
| | 23 642 | 7544·43 | −·01 | 5812·39 | −·01 | −·29* | −·15* | | | | | | | |
| | 23 645 | 7840·25 | −·01 | 5618·88 | −·01 | +·40* | −·09* | | | | | | | |
| | 22 649 | 7930·09 | ·00 | 1629·24 | −·02 | −·36* | +·16* | | | | | | | |
| | Eros | 3683·42 | ·00 | 4361·45 | ·00 | ... | ... | | | | | | | |
| February 11 | 21 635 | 1555·78 | ·00 | 4910·81 | −·01 | +·60 | −·01 | 222 | 2745·83 | ·00 | 5066·08 | ·00 | −·36 | −·12 |
| 5408 | 20 751 | 1709·21 | ·00 | 3480·69 | −·01 | −·25 | +·15 | 223 | 2777·42 | ·00 | 3928·63 | ·00 | −·09 | +·14 |
| | 21 639 | 2103·04 | ·00 | 5491·74 | −·01 | +·28 | +·01 | 224 | 4439·83 | ·00 | 3259·39 | ·00 | −·39 | −·04 |
| | 21 641 | 2279·35 | ·00 | 6200·86 | −·01 | −·49 | +·06 | 225 | 5806·49 | ·00 | 3126·79 | ·00 | −·05 | +·01 |
| | 20 754 | 3603·27 | ·00 | 4046·43 | ·00 | −·05 | −·15 | 226 | 5824·56 | ·00 | 3721·38 | ·00 | −·73 | −·01 |
| | 21 644 | 4015·88 | ·00 | 5252·61 | ·00 | +·12 | +·05 | 227 | 6420·43 | ·00 | 2498·38 | −·01 | −·75 | −·05 |
| | 20 756 | 4723·60 | ·00 | 3531·93 | ·00 | +·31 | ·00 | 228 | 7452·67 | ·00 | 3580·60 | −·01 | −·62† | +·01† |
| | 21 647 | 5440·05 | ·00 | 5804·02 | ·00 | −·52 | +·27 | 229 | 7536·30 | +·01 | 1964·64 | −·02 | −·10† | −·21† |
| | 20 760 | 5999·72 | ·00 | 2969·57 | −·01 | +·17 | −·21 | | | | | | | |
| | 20 761 | 6065·29 | ·00 | 2411·87 | −·01 | −·20 | −·13 | | | | | Mean | −·40 | −·01 |
| | Eros | 3866·37 | ·00 | 4281·21 | ·00 | ... | ... | | | | | | | |

* Not used in forming the finally adopted values of *c.* and *f.* (Table IV.), the star being more than 55′ from the centre of the plate.
† Not used in forming the Mean Correction for Comparison Stars (Table X.), the star being more than 25′ from the centre of the plate.
The number given in column 9 is the reference number assigned to the comparison stars in Tables VIII. and IX.

TABLE II.—Measured Co-ordinates and Residuals, Astrographic 13-inch Refractor.

| Date and Plate No. | Reference Stars. | | | | | | | Comparison Stars. | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | No. in B.D. | x. | Refraction Correction applied. | y. | Refraction Correction applied. | Residuals C—O. x. | Residuals C—O. y. | No. | x. | Refraction Correction applied. | y. | Refraction Correction applied. | Residuals. x. | Residuals. y. |
| 1901. | ° | " | " | " | " | " | " | | " | " | " | " | " | " |
| February 11 | 21 635 | 1560·33 | ·00 | 4916·66 | −·01 | +·14 | −·02 | 222 | 2749·36 | ·00 | 5072·90 | ·00 | +·07 | −·04 |
| 5409 | 20 751 | 1714·91 | ·00 | 3486·52 | −·01 | −·52 | +·30 | 223 | 2782·40 | ·00 | 3935·73 | ·00 | −·06 | −·02 |
| | 21 639 | 2106·66 | ·00 | 5497·98 | −·01 | +·23 | +·09 | 224 | 4445·08 | ·00 | 3267·79 | ·00 | −·01 | −·03 |
| | 21 641 | 2282·14 | ·00 | 6207·17 | −·01 | −·36 | +·26 | 225 | 5812·15 | ·00 | 3136·57 | ·00 | +·04 | −·14 |
| | 20 754 | 3607·86 | ·00 | 4054·07 | ·00 | +·25 | −·13 | 226 | 5828·90 | ·00 | 3731·17 | ·00 | +·12 | −·17 |
| | 21 644 | 4019·71 | ·00 | 5260·68 | ·00 | +·08 | +·02 | 227 | 6425·95 | ·00 | 2508·69 | −·01 | +·06 | −·18 |
| | 20 756 | 4728·99 | ·00 | 3540·65 | ·00 | +·30 | −·05 | 229 | 7542·79 | ·00 | 1976·09 | −·02 | +·23† | −·47† |
| | 21 647 | 5443·23 | ·00 | 5813·58 | ·00 | −·42 | +·03 | | | | | | | |
| | 20 760 | 6005·32 | ·00 | 2979·49 | ·00 | +·45 | −·33 | | | | | Mean | +·04 | −·10 |
| | 20 761 | 6071·61 | ·00 | 2421·75 | −·01 | −·12 | −·16 | | | | | | | |
| | Eros | 3942·64 | ·00 | 4256·16 | ·00 | | | | | | | | | |
| February 11 | 21 635 | 1579·89 | −·02 | 5057·48 | −·01 | +·68 | −·22 | 222 | 2770·84 | ·00 | 5199·06 | ·00 | −·07 | +·04 |
| 5412 | 20 751 | 1718·36 | −·03 | 3625·73 | −·03 | −·21 | +·45 | 223 | 2790·66 | −·01 | 4062·02 | −·01 | +·08 | +·02 |
| | 21 639 | 2132·99 | −·01 | 5632·08 | −·01 | +·35 | −·22 | 224 | 4445·24 | ·00 | 3374·40 | ·00 | −·11 | ·00 |
| | 21 641 | 2316·47 | −·01 | 6338·91 | −·01 | −·26 | −·10 | 225 | 5810·10 | −·01 | 3226·66 | −·01 | +·05 | +·04 |
| | 20 754 | 3617·63 | ·00 | 4170·50 | ·00 | −·13 | −·21 | 226 | 5833·73 | −·01 | 3820·82 | −·01 | +·01 | ·00 |
| | 21 644 | 4042·60 | ·00 | 5371·58 | −·01 | +·10 | +·01 | 227 | 6416·74 | −·01 | 2591·56 | −·01 | −·16 | +·10 |
| | 20 756 | 4732·14 | ·00 | 3643·60 | ·00 | +·20 | +·10 | 228 | 7460·02 | −·04 | 3661·77 | −·03 | −·23† | +·21† |
| | 21 647 | 5471·96 | −·01 | 5907·08 | −·03 | −·59 | +·09 | 229 | 7526·81 | −·03 | 2045·68 | −·02 | +·21† | −·11† |
| | 20 760 | 6001·84 | −·01 | 3067·18 | −·01 | +·03 | −·01 | | | | | | | |
| | 20 761 | 6061·37 | −·01 | 2508·93 | −·01 | −·15 | +·11 | | | | | Mean | −·03 | +·03 |
| | Eros | 4451·64 | ·00 | 4132·39 | ·00 | ... | ... | | | | | | | |
| February 11 | 21 635 | 1574·58 | −·03 | 4984·02 | −·02 | +·36 | −·08 | 222 | 2763·35 | −·01 | 5139·46 | −·01 | +·10 | +·09 |
| 5413 | 20 751 | 1730·10 | −·05 | 3554·50 | −·05 | −·47 | +·25 | 223 | 2796·52 | −·02 | 4002·89 | −·01 | +·29 | +·05 |
| | 21 639 | 2120·54 | −·01 | 5564·69 | −·01 | +·21 | +·16 | 224 | 4459·36 | ·00 | 3334·79 | ·00 | −·21 | −·22 |
| | 21 641 | 2295·49 | −·01 | 6273·66 | −·02 | −·35 | +·10 | 225 | 5825·21 | −·01 | 3202·98 | −·01 | +·50 | −·29 |
| | 20 754 | 3621·97 | ·00 | 4120·84 | ·00 | +·17 | −·09 | 226 | 5841·79 | −·01 | 3797·09 | −·01 | +·40 | −·11 |
| | 21 644 | 4032·84 | −·01 | 5326·69 | −·01 | +·06 | +·03 | 227 | 6439·18 | −·02 | 2575·28 | −·01 | +·43 | −·38 |
| | 20 756 | 4742·90 | ·00 | 3607·27 | ·00 | +·18 | −·11 | 228 | 7469·37 | −·06 | 3657·27 | −·04 | +·49† | −·26† |
| | 21 647 | 5455·45 | −·05 | 5878·45 | −·05 | −·52 | +·28 | 229 | 7555·53 | −·04 | 2042·40 | −·03 | +·87† | −·74† |
| | 20 760 | 6018·97 | −·01 | 3045·57 | −·01 | +·34 | −·15 | | | | | | | |
| | 20 761 | 6085·33 | −·01 | 2488·45 | −·01 | −·01 | −·36 | | | | | Mean | +·25 | −·15 |
| | Eros | 4533·85 | ·00 | 4057·08 | ·00 | ... | ... | | | | | | | |
| February 12 | 20 756 | 1587·39 | ·00 | 4968·87 | −·01 | +·48 | +·17 | 224 | 1301·87 | ·00 | 4697·81 | −·01 | +·11† | ·00† |
| 5414 | 21 647 | 2315·70 | +·01 | 7237·67 | −·02 | −·79 | +·40 | 225 | 2668·49 | ·00 | 4558·42 | ·00 | −·09 | +·05 |
| | 20 760 | 2860·85 | ·00 | 4400·23 | ·00 | +·23 | −·09 | 226 | 2688·89 | ·00 | 5152·82 | ·00 | −·11 | +·12 |
| | 20 761 | 2923·47 | ·00 | 3842·35 | ·00 | ·00 | −·09 | 20° 760 | 2860·85 | ·00 | 4400·23 | ·00 | −·03 | +·01 |
| | 19 731 | 4286·25 | ·00 | 840·07 | −·02 | +·01 | −·04 | 227 | 3278·12 | ·00 | 3927·01 | ·00 | +·33 | +·02 |
| | 19 733 | 5089·98 | ·00 | 1902·51 | −·01 | −·03 | −·07 | 228 | 4315·54 | ·00 | 5004·20 | ·00 | +·53 | −·17 |
| | 21 657 | 5773·93 | ·00 | 7307·43 | −·02 | −·38 | +·36 | 229 | 4391·85 | ·00 | 3387·82 | ·00 | +·12 | −·04 |
| | 19 736 | 6914·39 | +·01 | 770·42 | −·03 | +·12* | −·51* | 230 | 6317·82 | +·01 | 1924·10 | −·01 | +·33† | −·28† |
| | 20 778 | 8018·57 | ·00 | 5435·81 | −·01 | +·40* | −·09* | | | | | | | |
| | | | | | | | | | | | | Mean | +·13 | ·00 |
| | Eros | 3849·41 | ·00 | 4332·86 | ·00 | ... | ... | | | | | | | |

* Not used in forming the finally adopted values of c. and f. (Table IV.), the star being more than 55′ from the centre of the plate.
† Not used in forming the Mean Correction for Comparison Stars (Table X.), the star being more than 25′ from the centre of the plate.
The number given in column 9 is the reference number assigned to the comparison stars in Tables VIII. and IX.

TABLE II.—Measured Co-ordinates and Residuals, Astrographic 13-inch Refractor.

| Date and Plate No. | Reference Stars. | | | | | | | Comparison Stars. | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | No. in B.D. | x. | Refraction Correction applied. | y. | Refraction Correction applied. | Residuals C—O. | | No. | x. | Refraction Correction applied. | y. | Refraction Correction applied. | Residuals. | |
| | | | | | | x. | y. | | | | | | x. | y. |
| 1901. | ° | " | " | " | " | " | " | | " | " | " | " | " | " |
| February 12<br>5415 | 20 756 | 1640·49 | ·00 | 4935·23 | −·01 | +·05 | +·06 | 224 | 1354·48 | ·00 | 4664·15 | −·01 | +·17† | +·01† |
| | 21 647 | 2368·77 | +·01 | 7203·66 | −·01 | −·83 | +·52 | 225 | 2720·93 | ·00 | 4524·59 | ·00 | +·12 | −·02 |
| | 20 760 | 2913·57 | ·00 | 4366·21 | ·00 | +·08 | −·06 | 226 | 2741·56 | ·00 | 5119·02 | ·00 | −·03 | +·02 |
| | 20 761 | 2976·01 | ·00 | 3808·30 | ·00 | −·05 | −·04 | 20° 760 | 2913·57 | ·00 | 4366·21 | ·00 | +·13 | +·09 |
| | 19 731 | 4338·30 | ·00 | 805·91 | −·01 | −·02 | −·11 | 227 | 3331·25 | ·00 | 3892·97 | ·00 | −·25 | +·05 |
| | 19 733 | 5141·92 | ·00 | 1867·92 | −·01 | +·22 | +·15 | 228 | 4369·11 | ·00 | 4969·78 | ·00 | −·31 | +·06 |
| | 20 772 | 5460·84 | ·00 | 4211·33 | ·00 | +·41 | −·20 | 229 | 4444·71 | ·00 | 3353·58 | ·00 | −·27 | −·01 |
| | 21 657 | 5827·01 | ·00 | 7273·24 | −·01 | −·41 | +·04 | 230 | 6370·34 | −·01 | 1889·37 | −·01 | +·04† | −·11† |
| | 20 778 | 8071·13 | ·00 | 5401·18 | −·01 | +·57* | −·39* | | | | | | | |
| | | | | | | | | | | | | Mean | −·10 | +·03 |
| | Eros | 3945·04 | ·00 | 4278·83 | ·00 | ... | ... | | | | | | | |
| February 12<br>5416 | 20 756 | 1585·56 | ·00 | 4940·90 | −·01 | +·46 | +·06 | 224 | 1298·58 | ·00 | 4671·62 | −·01 | −·23† | ·00† |
| | 21 647 | 2328·07 | ·00 | 7204·81 | −·02 | −·40 | +·33 | 225 | 2663·87 | ·00 | 4523·35 | ·00 | −·06 | +·06 |
| | 20 760 | 2855·16 | ·00 | 4364·02 | ·00 | +·35 | −·20 | 226 | 2687·98 | ·00 | 5117·70 | ·00 | +·05 | +·03 |
| | 20 761 | 2914·32 | ·00 | 3805·74 | ·00 | −·03 | −·18 | 20° 760 | 2855·16 | ·00 | 4364·02 | ·00 | +·04 | −·07 |
| | 19 731 | 4257·77 | ·00 | 794·49 | −·02 | −·13 | +·13 | 228 | 4314·23 | ·00 | 4958·38 | ·00 | +·05 | −·12 |
| | 19 733 | 5068·14 | ·00 | 1851·65 | −·01 | +·01 | +·11 | 229 | 4379·90 | ·00 | 3341·61 | ·00 | −·17 | −·03 |
| | 21 657 | 5787·01 | −·01 | 7252·23 | −·02 | −·42 | +·17 | 230 | 6296·31 | ·00 | 1865·52 | −·01 | +·08† | −·32† |
| | 19 736 | 6885·33 | ·00 | 707·87 | −·03 | −·01* | −·44* | 232 | 7612·47 | ·00 | 3203·02 | −·01 | +·40† | −·41† |
| | 20 778 | 8019·65 | −·01 | 5365·83 | −·02 | +·17* | +·01* | | | | | | | |
| | | | | | | | | | | | | Mean | −·02 | −·03 |
| | Eros | 3928·12 | ·00 | 4250·80 | ·00 | ... | ... | | | | | | | |
| February 13<br>5420 | 19 731 | 1111·58 | ·00 | 2197·96 | −·02 | −·18 | +·05 | 229 | 1231·66 | ·00 | 4745·08 | −·01 | −·23† | +·08† |
| | 19 733 | 1921·03 | ·00 | 3255·85 | −·01 | +·10 | +·06 | 230 | 3149·47 | ·00 | 3270·41 | ·00 | −·09 | +·04 |
| | 20 772 | 2252·98 | ·00 | 5596·92 | −·01 | +·12 | +·29 | 232 | 4464·51 | ·00 | 4608·87 | ·00 | +·10 | +·01 |
| | 19 736 | 3738·66 | ·00 | 2113·68 | −·01 | +·37 | −·18 | 233 | 4718·26 | ·00 | 3971·89 | ·00 | +·12 | −·21 |
| | 20 778 | 4870·02 | ·00 | 6772·26 | −·01 | −·16 | −·01 | | | | | | | |
| | 19 740 | 5664·43 | ·00 | 2694·41 | −·01 | −·24 | +·18 | | | | | Mean | +·04 | −·05 |
| | 19 742 | 5705·05 | ·00 | 2377·91 | −·01 | −·17 | −·09 | | | | | | | |
| | 19 744 | 6445·95 | +·01 | 1946·38 | −·01 | −·05 | ·00 | | | | | | | |
| | 19 745 | 6565·16 | +·01 | 989·49 | −·03 | +·17* | −·20* | | | | | | | |
| | 20 785 | 7824·30 | ·00 | 5298·33 | −·01 | +·06* | −·09* | | | | | | | |
| | Eros | 3867·70 | ·00 | 4289·30 | ·00 | ... | ... | | | | | | | |
| February 13<br>5421 | 19 731 | 1111·76 | −·02 | 2248·75 | −·02 | −·14 | +·29 | 229 | 1233·13 | ·00 | 4795·87 | −·01 | +·14† | +·15† |
| | 19 733 | 1921·77 | −·01 | 3306·31 | −·01 | +·26 | −·06 | 230 | 3150·23 | ·00 | 3319·63 | ·00 | −·04 | +·18 |
| | 20 772 | 2254·84 | ·00 | 5647·08 | −·01 | +·71 | +·17 | 231 | 3780·26 | ·00 | 4834·22 | ·00 | +·09 | +·06 |
| | 19 736 | 3738·79 | ·00 | 2162·57 | −·01 | +·31 | −·17 | 232 | 4466·38 | ·00 | 4657·06 | ·00 | −·11 | +·07 |
| | 20 778 | 4873·00 | −·01 | 6820·32 | −·02 | +·02 | −·18 | 233 | 4719·49 | ·00 | 4019·78 | ·00 | +·13 | −·04 |
| | 19 740 | 5665·12 | ·00 | 2741·69 | −·01 | −·50 | +·22 | 234 | 5683·58 | ·00 | 4574·46 | ·00 | +·12 | −·34 |
| | 19 742 | 5705·38 | ·00 | 2425·07 | −·01 | −·30 | +·06 | | | | | | | |
| | 19 744 | 6445·79 | ·00 | 1993·04 | −·01 | −·01 | +·04 | | | | | Mean | +·04 | −·01 |
| | 19 745 | 6564·42 | ·00 | 1036·38 | −·02 | +·14* | +·45* | | | | | | | |
| | 20 785 | 7826·89 | −·02 | 5343·67 | −·02 | −·44* | +·08* | | | | | | | |
| | Eros | 4114·94 | ·00 | 4227·33 | ·00 | ... | ... | | | | | | | |

* Not used in forming the finally adopted values of *c.* and *f.* (Table IV.), the star being more than 55′ from the centre of the plate.

† Not used in forming the Mean Correction for Comparison Stars (Table X.), the star being more than 25′ from the centre of the plate.

The number given in column 9 is the reference number assigned to the comparison stars in Tables VIII. and IX.

TABLE II.—Measured Co-ordinates and Residuals, Astrographic 13-inch Refractor.

| Date and Plate No. | Reference Stars. | | | | | | | Comparison Stars. | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | No. in B.D. | x. | Refraction Correction applied. | y. | Refraction Correction applied. | Residuals C—O. | | No. | x. | Refraction Correction applied. | y. | Refraction Correction applied. | Residuals. | |
| | | | | | | x. | y. | | | | | | x. | y. |
| 1901. | ° | ″ | ″ | ″ | ″ | ″ | ″ | | ″ | ″ | ″ | ″ | ″ | ″ |
| February 13 | 19 731 | 1110·18 | −·02 | 2247·00 | −·02 | −·43 | +·19 | 229 | 1230·56 | −·01 | 4794·05 | −·01 | −·17† | +·12† |
| 5422 | 19 733 | 1919·67 | −·01 | 3304·41 | −·01 | +·05 | +·28 | 230 | 3147·82 | ·00 | 3318·56 | ·00 | +·07 | +·16 |
| | 20 772 | 2251·95 | ·00 | 5645·56 | −·01 | +·31 | +·21 | 232 | 4463·57 | ·00 | 4656·35 | ·00 | −·16 | +·18 |
| | 19 736 | 3736·93 | ·00 | 2161·62 | −·01 | +·32 | −·06 | 233 | 4716·89 | ·00 | 4019·02 | ·00 | +·12 | +·21 |
| | 20 778 | 4869·20 | −·01 | 6819·80 | −·02 | ·00 | −·16 | 234 | 5680·98 | ·00 | 4573·94 | ·00 | −·12 | +·03 |
| | 19 740 | 5662·76 | ·00 | 2741·61 | −·01 | −·27 | +·18 | | | | | | | |
| | 19 742 | 5703·17 | ·00 | 2425·24 | −·01 | −·08 | −·21 | | | | | Mean | −·02 | +·15 |
| | 19 744 | 6443·95 | ·00 | 1993·34 | −·01 | ·00 | −·06 | | | | | | | |
| | 19 745 | 6562·63 | ·00 | 1036·60 | −·02 | +·53* | −·42* | | | | | | | |
| | 20 785 | 7823·58 | −·02 | 5344·38 | −·02 | −·38* | +·02* | | | | | | | |
| | Eros | 4154·06 | ·00 | 4207·57 | ·00 | ... | ... | | | | | | | |
| February 13 | 19 731 | 1119·19 | −·08 | 2247·76 | −·08 | −·46 | +·16 | 229 | 1238·12 | −·03 | 4794·24 | −·02 | +·35† | −·04† |
| 5426 | 19 733 | 1927·78 | −·03 | 3304·85 | −·03 | +·34 | +·08 | 230 | 3156·00 | −·01 | 3318·65 | −·01 | −·06 | +·03 |
| | 20 772 | 2259·34 | −·01 | 5645·22 | −·01 | +·45 | +·04 | 231 | 3784·71 | ·00 | 4832·93 | ·00 | +·06 | −·13 |
| | 19 736 | 3745·21 | −·02 | 2161·84 | −·03 | +·31 | −·18 | 232 | 4470·59 | ·00 | 4655·78 | ·00 | +·05 | ·00 |
| | 20 778 | 4875·70 | −·03 | 6818·34 | −·05 | −·08 | −·19 | 233 | 4724·49 | ·00 | 4018·64 | ·00 | −·11 | −·03 |
| | 19 740 | 5670·33 | −·01 | 2741·11 | −·01 | −·29 | +·14 | | | | | | | |
| | 19 742 | 5710·91 | −·01 | 2424·64 | −·01 | −·18 | −·08 | | | | | Mean | −·02 | −·03 |
| | 19 744 | 6451·57 | −·01 | 1992·69 | −·02 | −·04 | +·08 | | | | | | | |
| | 19 745 | 6570·71 | −·02 | 1036·23 | −·03 | +·31* | −·34* | | | | | | | |
| | 20 785 | 7829·66 | −·08 | 5342·34 | −·07 | −·38* | +·25* | | | | | | | |
| | Eros | 4465·16 | ·00 | 4069·87 | ·00 | ... | ... | | | | | | | |
| February 13 | 19 731 | 1036·43 | −·11 | 2249·79 | −·12 | −·50 | −·22 | 229 | 1155·71 | −·04 | 4795·23 | −·03 | −·27† | +·32† |
| 5427 | 19 733 | 1845·05 | −·05 | 3306·21 | −·05 | +·09 | +·15 | 230 | 3073·06 | −·01 | 3319·65 | −·02 | −·22 | +·28 |
| | 20 772 | 2176·25 | −·01 | 5646·01 | −·01 | +·32 | +·38 | 231 | 3701·64 | ·00 | 4833·74 | ·00 | −·16 | +·06 |
| | 19 736 | 3662·25 | −·03 | 2163·23 | −·03 | +·21 | −·15 | 232 | 4387·11 | ·00 | 4656·67 | ·00 | +·19 | +·06 |
| | 20 778 | 4791·92 | −·05 | 6818·65 | −·06 | +·11 | +·16 | 233 | 4640·97 | ·00 | 4019·67 | ·00 | +·09 | −·09 |
| | 19 740 | 5586·89 | −·01 | 2742·13 | −·01 | −·16 | +·13 | 234 | 5604·17 | −·02 | 4573·70 | −·02 | +·14 | +·05 |
| | 19 742 | 5627·71 | −·01 | 2425·75 | −·01 | −·26 | −·15 | | | | | | | |
| | 19 744 | 6368·06 | −·02 | 1993·86 | −·02 | +·15 | −·12 | | | | | Mean | +·01 | +·07 |
| | 19 745 | 6487·16 | −·03 | 1037·25 | −·04 | +·62* | −·27* | | | | | | | |
| | 20 785 | 7746·06 | −·10 | 5342·94 | −·10 | −·54* | +·09* | | | | | | | |
| | Eros | 4426·86 | ·00 | 4050·42 | ·00 | ... | ... | | | | | | | |
| February 14 | 19 740 | 2491·33 | −·01 | 4132·58 | −·01 | −·35 | +·25 | 232 | 1302·66 | −·02 | 6054·24 | −·02 | −·42† | +·10† |
| 5428 | 19 742 | 2530·40 | −·01 | 3816·14 | −·01 | −·54 | −·23 | 233 | 1552·73 | −·02 | 5415·44 | −·01 | −·30† | +·16† |
| | 19 744 | 3268·36 | −·01 | 3380·11 | −·01 | −·17 | −·01 | 234 | 2519·28 | −·01 | 5964·42 | −·01 | −·09 | +·27 |
| | 19 745 | 3381·93 | −·01 | 2422·73 | −·02 | +·22 | −·04 | 235 | 3770·53 | −·01 | 6142·22 | −·01 | ... | ... |
| | 20 785 | 4665·53 | −·02 | 6722·30 | −·03 | −·34 | +·08 | 236 | 4534·79 | ·00 | 2571·56 | −·01 | +·05 | −·01 |
| | 19 755 | 7493·92 | −·05 | 5238·25 | −·05 | +·42* | +·06* | 237 | 5344·83 | −·01 | 5151·55 | −·01 | +·14 | −·23 |
| | 19 759 | 7620·67 | −·04 | 4608·88 | −·03 | +·75 | −·10 | 239 | 6882·20 | −·03 | 4476·21 | −·02 | +·16† | −·20† |
| | Eros | 4385·57 | ·00 | 4118·46 | ·00 | ... | ... | | | | | Mean | +·03 | +·01 |

* Not used in forming the finally adopted values of *c.* and *f.* (Table IV.), the star being more than 55′ from the centre of the plate.
† Not used in forming the Mean Correction for Comparison Stars (Table X.), the star being more than 25′ from the centre of the plate.
The number given in column 9 is the reference number assigned to the comparison stars in Tables VIII. and IX.

TABLE II.—Measured Co-ordinates and Residuals, Astrographic 13-inch Refractor.

| Date and Plate No. | Reference Stars. | | | | | | | Comparison Stars. | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | No. in B.D. | x. | Refraction Correction applied. | y. | Refraction Correction applied. | Residuals. C—O. | | No. | x. | Refraction Correction applied. | y. | Refraction Correction applied. | Residuals. | |
| | | | | | | x. | y. | | | | | | x. | y. |
| 1901. | | " | " | " | " | " | " | | " | " | " | " | " | " |
| February 15 | 18 666 | 1748·98 | ·00 | 1011·90 | −·02 | −·37* | −·26* | 236 | 1351·04 | ·00 | 3889·10 | −·01 | +·01 | −·01 |
| 5429 | 19 755 | 4325·51 | ·00 | 6541·86 | −·01 | −·34 | +·27 | 237 | 2175·28 | +·01 | 6465·30 | −·01 | −·22 | +·30 |
| | 19 759 | 4448·54 | ·00 | 5911·96 | −·01 | +·32 | −·04 | 238 | 2526·68 | ·00 | 4026·05 | ·00 | −·07 | −·08 |
| | 18 684 | 5444·73 | +·01 | 1001·32 | −·02 | −·07 | +·16 | 239 | 3709·40 | ·00 | 5782·61 | −·01 | −·26 | +·05 |
| | 19 774 | 7739·98 | +·01 | 3212·18 | −·01 | +·45 | −·14 | | | | | | | |
| | | | | | | | | | | | | Mean | −·14 | +·07 |
| | Eros | 3877·46 | ·00 | 4288·29 | ·00 | | | | | | | | | |
| February 15 | 18 666 | 1735·46 | −·01 | 1005·56 | −·03 | +·03* | −·09* | 236 | 1349·71 | ·00 | 3884·50 | −·01 | +·05 | ·00 |
| 5430 | 19 755 | 4334·86 | ·00 | 6525·06 | −·01 | −·32 | +·24 | 237 | 2184·14 | ·00 | 6457·68 | −·01 | +·10 | −·07 |
| | 19 759 | 4455·53 | ·00 | 5894·70 | −·01 | +·16 | −·11 | 238 | 2525·92 | ·00 | 4016·65 | ·00 | −·07 | −·06 |
| | 18 684 | 5431·58 | ·00 | 979·97 | −·02 | −·13 | +·19 | 239 | 3715·46 | ·00 | 5768·29 | −·01 | +·06 | +·12 |
| | 19 774 | 7735·96 | ·00 | 3181·51 | −·01 | +·27 | −·22 | | | | | | | |
| | | | | | | | | | | | | Mean | +·04 | ·00 |
| | Eros | 3932·06 | ·00 | 4248·85 | ·00 | ... | ... | | | | | | | |
| February 15 | 18 666 | 1732·82 | −·01 | 1002·08 | −·03 | +·13* | +·07* | 236 | 1355·94 | ·00 | 3882·28 | −·01 | −·13 | +·02 |
| 5431 | 19 755 | 4348·53 | ·00 | 6514·04 | −·01 | −·20 | −·07 | 238 | 2532·15 | ·00 | 4010·70 | ·00 | +·11 | +·13 |
| | 19 759 | 4467·48 | ·00 | 5883·14 | −·01 | +·10 | −·22 | 239 | 3727·03 | ·00 | 5758·97 | −·01 | +·07 | +·04 |
| | 18 684 | 5428·86 | ·00 | 965·34 | −·02 | −·14 | +·37 | | | | | | | |
| | 19 774 | 7739·83 | ·00 | 3159·97 | −·01 | +·12 | −·15 | | | | | Mean | +·02 | +·06 |
| | Eros | 4010·02 | ·00 | 4207·26 | ·00 | ... | ... | | | | | | | |
| February 17 | 19 774 | 1368·32 | −·01 | 5981·55 | −·01 | +·27 | −·68 | 240 | 5825·67 | ·00 | 2399·47 | −·01 | ... | ... |
| 5434 | 18 717 | 1808·63 | −·01 | 4082·58 | −·01 | −·20 | −·06 | | | | | | | |
| | 18 719 | 1969·29 | −·01 | 3852·33 | −·01 | −·39 | −·19 | | | | | | | |
| | 19 777 | 2232·35 | −·01 | 6582·95 | −·01 | −·20 | −·19 | | | | | | | |
| | 18 725 | 2507·66 | ·00 | 5093·01 | ·00 | +·41 | −·15 | | | | | | | |
| | 18 727 | 2697·53 | −·01 | 2962·57 | −·01 | +·21 | −·15 | | | | | | | |
| | 19 782 | 3182·64 | ·00 | 5957·53 | −·01 | +·39 | ·00 | | | | | | | |
| | 18 734 | 4023·71 | ·00 | 3805·63 | ·00 | −·16 | +·24 | | | | | | | |
| | 18 738 | 5395·04 | −·01 | 5523·00 | −·01 | +·29* | +·50* | | | | | | | |
| | 18 743 | 6308·69 | −·01 | 4263·63 | −·01 | −·58* | +·73* | | | | | | | |
| | Eros | 4270·77 | ·00 | 4180·68 | ·00 | ... | ... | | | | | | | |
| February 20 | 17 814 | 1288·86 | ·00 | 5305·47 | −·01 | −·03 | +·12 | 241 | 2969·62 | ·00 | 3629·83 | ·00 | −·10 | −·12 |
| 5436 | 16 671 | 1561·44 | −·01 | 733·26 | −·03 | −·53* | −·09* | 242 | 3219·17 | ·00 | 5260·55 | ·00 | +·09 | −·03 |
| | 16 672 | 2055·07 | ·00 | 2244·41 | −·01 | −·80 | +·18 | 243 | 4231·30 | ·00 | 6006·98 | −·01 | +·07 | +·02 |
| | 16 679 | 4224·12 | ·00 | 1091·56 | −·02 | +·41 | −·12 | 244 | 5150·19 | ·00 | 3591·36 | ·00 | +·20 | −·11 |
| | 16 685 | 5972·80 | ·00 | 1124·20 | −·02 | +·46 | −·08 | | | | | | | |
| | 16 688 | 7827·59 | ·00 | 2203·63 | −·02 | +·50* | −·03* | | | | | Mean | +·07 | +·06 |
| | Eros | 4125·33 | ·00 | 4334·81 | ·00 | ... | ... | | | | | | | |
| February 20 | 17 814 | 1297·29 | −·01 | 5302·06 | −·01 | +·01 | +·02 | 241 | 2977·75 | ·00 | 3626·09 | ·00 | +·20 | +·01 |
| 5438 | 16 671 | 1569·90 | −·02 | 729·77 | −·05 | −·51* | ·00* | 242 | 3227·84 | ·00 | 5256·77 | ·00 | −·15 | +·06 |
| | 16 672 | 2063·57 | −·01 | 2240·98 | −·02 | −·84 | +·12 | 243 | 4239·66 | ·00 | 6003·20 | −·01 | +·10 | −·02 |
| | 16 679 | 4232·56 | −·01 | 1087·86 | −·02 | +·37 | −·10 | 244 | 5158·87 | ·00 | 3587·50 | ·00 | −·11 | −·08 |
| | 16 685 | 5981·08 | ·00 | 1120·27 | −·02 | +·52 | +·01 | | | | | | | |
| | 16 688 | 7835·94 | −·01 | 2199·57 | −·02 | +·44* | −·03* | | | | | Mean | +·01 | −·01 |
| | Eros | 4289·45 | ·00 | 4264·95 | ·00 | ... | ... | | | | | | | |

* Not used in forming the finally adopted values of *c.* and *f.* (Table IV.), the star being more than 55′ from the centre of the plate.
† Not used in forming the Mean Correction for Comparison Stars (Table X.), the star being more than 25′ from the centre of the plate.
The number given in column 9 is the reference number assigned to the comparison stars in Tables VIII. and IX.

### TABLE II.—Measured Co-ordinates and Residuals, Astrographic 13-inch Refractor.

| Date and Plate No. | Reference Stars. | | | | | | | Comparison Stars. | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | No. in B.D. | *x.* | Refraction Correction applied. | *y.* | Refraction Correction applied. | Residuals C—O. *x.* | Residuals C—O. *y.* | No. | *x.* | Refraction Correction applied. | *y.* | Refraction Correction applied. | Residuals. *x.* | Residuals. *y.* |
| 1901. | ° | ″ | ″ | ″ | ″ | ″ | ″ | | ″ | ″ | ″ | ″ | ″ | ″ |
| February 20 | 17 814 | 1306·75 | −·01 | 5398·86 | −·01 | −·08 | +·10 | 241 | 2978·31 | ·00 | 3713·78 | ·00 | −·10 | +·10 |
| 5441 | 16 671 | 1554·76 | −·05 | 825·53 | −·06 | −·47* | +·13* | 242 | 3236·54 | ·00 | 5343·07 | ·00 | +·09 | −·03 |
| ... | 16 672 | 2056·56 | −·02 | 2333·91 | −·03 | −·91 | +·15 | 243 | 4252·72 | −·01 | 6083·69 | −·01 | −·17 | ·00 |
| | 16 679 | 4219·12 | −·01 | 1168·97 | −·03 | +·29 | −·15 | 244 | 5158·61 | ·00 | 3662·92 | ·00 | −·08 | +·18 |
| | 16 685 | 5967·51 | −·01 | 1191·90 | −·02 | +·55 | −·26 | | | | | | | |
| | 16 688 | 7827·76 | −·02 | 2260·41 | −·02 | +·60* | +·06* | | | | | Mean | −·07 | +·06 |
| | Eros | 4462·21 | ·00 | 4272·64 | ·00 | ... | ... | | | | | | | |
| February 25 | 16 742 | 2839·80 | −·01 | 5933·04 | −·01 | −·10 | +·17 | | | | | | | |
| ... 5452 | 15 779 | 2901·06 | −·04 | 2015·22 | −·05 | −·22 | −·29 | | | | | | | |
| | 15 789 | 5412·71 | −·02 | 5125·08 | −·02 | +·47 | −·30 | | | | | | | |
| | 14 881 | 5919·30 | −·02 | 1302·89 | −·03 | −·05 | +·10 | | | | | | | |
| | 15 790 | 6003·60 | −·01 | 3383·88 | −·01 | +·08 | +·18 | | | | | | | |
| | 15 795 | 6804·90 | −·03 | 4153·81 | −·02 | −·17 | +·16 | | | | | | | |
| | Eros | 4435·13 | ·00 | 4105·93 | ·00 | ... | ... | | | | | | | |

* Not used in forming the finally adopted values of *c.* and *f.* (Table IV.), the star being more than 55′ from the centre of the plate.

† Not used in forming the Mean Correction for Comparison Stars (Table X.), the star being more than 25′ from the centre of the plate.

The number given in column 9 is the reference number assigned to the comparison stars in Tables VIII. and IX.

TABLE III.—Measured Co-ordinates and Residuals, Thompson 26-inch Refractor.

| Date and Plate No. | No. | *x.* | Refraction Correction applied. | *y.* | Refraction Correction applied. | Residuals. | |
|---|---|---|---|---|---|---|---|
| | | | | | | *x.* | *y.* |
| 1900. | | ″ | ″ | ″ | ″ | ″ | ″ |
| October 1 | 166 | 298·13 | +·05 | 3547·23 | −·05 | −·01 | +·07 |
| 744 | 172 | 612·61 | +·02 | 2310·07 | −·01 | −·15 | −·06 |
| | 184 | 2138·85 | +·01 | 3441·57 | −·01 | +·10 | +·19 |
| | 44° 591 | 2265·34 | ·00 | 1344·88 | ·00 | −·09 | +·03 |
| | 188 | 2591·01 | ·00 | 2905·55 | ·00 | +·16 | −·23 |
| | Eros | 1485·24 | +·01 | 2212·22 | −·01 | ... | ... |
| October 1 | 166 | 1033·16 | ·00 | 3343·93 | ·00 | +·16 | +·08 |
| 745 | 171 | 1328·57 | ·00 | 1360·47 | ·00 | +·12 | −·01 |
| | 172 | 1358·24 | ·00 | 2108·47 | ·00 | −·14 | +·09 |
| | 184 | 2875·59 | ·00 | 3252·08 | ·00 | +·01 | +·24 |
| | 44° 591 | 3019·71 | ·00 | 1155·55 | ·00 | −·15 | −·19 |
| | 188 | 3332·48 | ·00 | 2719·17 | ·00 | +·02 | −·22 |
| | Eros | 2239·47 | ·00 | 2233·61 | ·00 | ... | ... |
| October 1 | 166 | 950·59 | ·00 | 3393·94 | ·00 | −·16 | +·08 |
| 746 | 171 | 1243·90 | ·00 | 1410·34 | ·00 | −·04 | −·21 |
| | 172 | 1274·14 | ·00 | 2158·21 | ·00 | −·08 | ·00 |
| | 184 | 2792·46 | ·00 | 3300·24 | ·00 | +·31 | +·22 |
| | 44° 591 | 2934·74 | ·00 | 1203·39 | ·00 | −·05 | −·07 |
| | Eros | 2156·21 | ·00 | 2344·29 | ·00 | ... | ... |
| October 2 | 166 | 1047·54 | ·00 | 2187·76 | ·00 | −·02 | +·15 |
| 747 | 172 | 1371·42 | ·00 | 953·08 | ·00 | +·13 | −·20 |
| | 177 | 1972·64 | +·01 | 3358·20 | −·01 | −·10 | +·07 |
| | 182 | 2767·97 | ·00 | 3200·86 | ·00 | +·10 | −·02 |
| | 184 | 2889·20 | ·00 | 2096·37 | ·00 | −·02 | +·07 |
| | 188 | 3345·44 | +·01 | 1563·54 | −·01 | −·10 | −·05 |
| | Eros | 2296·31 | ·00 | 2208·58 | ·00 | ... | ... |
| October 3 | 166 | 892·19 | ·00 | 828·50 | ·00 | +·29 | +·09 |
| 748 | 169 | 996·00 | +·01 | 3174·87 | −·01 | −·13 | +·12 |
| | 177 | 1816·55 | ·00 | 1999·61 | ·00 | +·17 | +·06 |
| | 182 | 2612·45 | ·00 | 1842·57 | ·00 | −·14 | +·10 |
| | 184 | 2734·23 | +·01 | 738·18 | −·01 | +·06 | −·23 |
| | 191 | 3625·43 | +·01 | 3615·36 | −·01 | −·27 | −·11 |
| | Eros | 2154·64 | ·00 | 2193·24 | ·00 | ... | ... |
| October 3 | 166 | 892·61 | ·00 | 706·09 | ·00 | +·11 | −·01 |
| 749 | 169 | 1000·53 | +·01 | 3052·54 | ·00 | −·17 | +·17 |
| | 177 | 1819·29 | ·00 | 1875·21 | ·00 | −·04 | +·13 |
| | 182 | 2614·75 | ·00 | 1716·51 | ·00 | −·09 | +·08 |
| | 184 | 2734·43 | ·00 | 611·66 | ·00 | +·21 | −·27 |
| | 191 | 3631·14 | +·01 | 3487·37 | ·00 | −·04 | −·10 |
| | Eros | 2156·61 | ·00 | 2138·10 | ·00 | ... | ... |
| October 4 | 164 | 743·15 | +·01 | 3054·51 | −·01 | −·15 | +·01 |
| 751 | 169 | 1077·99 | ·00 | 1874·83 | ·00 | −·12 | +·06 |
| | 177 | 1890·64 | ·00 | 694·01 | −·01 | −·04 | −·13 |
| 1900. | | ″ | ″ | ″ | ″ | ″ | ″ |
| October 4 | 182 | 2685·31 | +·01 | 531·73 | −·01 | −·10 | −·32 |
| 751—*contd.* | 186 | 3209·07 | ·00 | 3476·27 | ·00 | +·14 | +·04 |
| | 191 | 3710·21 | +·01 | 2296·72 | −·01 | +·26 | +·31 |
| | Eros | 2215·43 | ·00 | 2193·30 | ·00 | ... | ... |
| October 4 | 169 | 1084·49 | ·00 | 1880·73 | ·00 | −·04 | +·03 |
| 752 | 177 | 1906·61 | ·00 | 706·28 | ·00 | −·21 | −·03 |
| | 182 | 2702·61 | +·01 | 550·24 | −·01 | −·34 | −·18 |
| | 186 | 3202·77 | ·00 | 3499·03 | ·00 | +·40 | +·05 |
| | 191 | 3713·50 | +·01 | 2323·66 | −·01 | +·18 | +·13 |
| | Eros | 2218·64 | ·00 | 2224·70 | ·00 | ... | ... |
| October 4 | 164 | 756·20 | ·00 | 2750·46 | ·00 | +·08 | −·10 |
| 753 | 169 | 1098·98 | ·00 | 1572·45 | ·00 | −·22 | −·07 |
| | 177 | 1919·40 | ·00 | 395·98 | ·00 | −·20 | −·21 |
| | 182 | 2715·11 | ·00 | 237·90 | ·00 | −·04 | −·08 |
| | 186 | 3220·31 | ·00 | 3186·16 | ·00 | +·19 | +·26 |
| | 191 | 3729·12 | ·00 | 2009·54 | ·00 | +·29 | +·22 |
| | Eros | 2220·29 | ·00 | 2150·10 | ·00 | ... | ... |
| October 5 | 164 | 811·46 | +·01 | 1763·56 | ·00 | +·15 | −·16 |
| 754 | 169 | 1153·81 | ·00 | 586·27 | −·01 | −·08 | +·10 |
| | 183 | 2751·64 | ·00 | 3390·60 | ·00 | +·06 | −·18 |
| | 186 | 3274·75 | ·00 | 2201·30 | ·00 | +·06 | +·21 |
| | 191 | 3783·38 | +·04 | 1025·90 | −·04 | −·20 | +·06 |
| | Eros | 2231·98 | ·00 | 2163·22 | ·00 | ... | ... |
| October 5 | 164 | 830·47 | +·01 | 1653·09 | ·00 | −·01 | −·14 |
| 755 | 165 | 1068·50 | +·02 | 3505·28 | −·02 | −·05 | −·01 |
| | 169 | 1172·36 | ·00 | 474·91 | −·01 | −·03 | +·17 |
| | 183 | 2771·48 | ·00 | 3278·85 | ·00 | +·09 | −·13 |
| | 191 | 3802·51 | +·02 | 912·13 | −·02 | +·06 | +·08 |
| | Eros | 2245·70 | ·00 | 2156·83 | ·00 | ... | ... |
| October 7 | 156 | 571·67 | +·02 | 3464·87 | −·01 | +·03 | +·08 |
| 756 | 165 | 1275·81 | ·00 | 904·26 | ·00 | −·18 | −·13 |
| | 170 | 1458·34 | ·00 | 2832·17 | ·00 | −·01 | +·11 |
| | 183 | 2979·17 | +·01 | 680·53 | −·01 | −·02 | −·16 |
| | 47° 720 | 3475·22 | +·01 | 3552·99 | ·00 | +·05 | +·05 |
| | 187 | 3489·81 | +·01 | 1734·64 | ·00 | +·12 | +·04 |
| | Eros | 2219·76 | ·00 | 2130·96 | ·00 | ... | ... |
| October 7 | 165 | 1294·08 | ·00 | 731·81 | ·00 | −·12 | −·02 |
| 757 | 170 | 1477·52 | ·00 | 2660·00 | ·00 | −·11 | +·04 |
| | 183 | 2997·66 | ·00 | 506·99 | ·00 | +·08 | −·18 |
| | 47° 720 | 3494·98 | ·00 | 3379·36 | ·00 | +·10 | +·11 |
| | 187 | 3508·96 | ·00 | 1560·85 | ·00 | +·07 | +·03 |
| | Eros | 2207·37 | ·00 | 2164·95 | ·00 | ... | ... |

TABLE III.—Measured Co-ordinates and Residuals, Thompson 26-inch Refractor.

| Date and Plate No. | No. | x. | Refraction Correction applied. | y. | Refraction Correction applied. | Residuals. | |
|---|---|---|---|---|---|---|---|
| | | | | | | x. | y. |
| 1900. | | ″ | ″ | ″ | ″ | ″ | ″ |
| October 8<br>759 | 156 | 671·85 | +·01 | 2288·16 | −·01 | +·19 | ·00 |
| | 170 | 1559·35 | ·00 | 1657·05 | ·00 | −·11 | +·06 |
| | 174 | 1736·82 | +·01 | 3521·87 | −·01 | +·01 | −·20 |
| | 179 | 2494·65 | ·00 | 3297·22 | −·01 | −·09 | +·18 |
| | 47° 720 | 3574·89 | +·01 | 2380·97 | −·01 | +·01 | ·00 |
| | 187 | 3591·84 | +·04 | 563·11 | −·04 | −·02 | −·01 |
| | Eros | 2158·71 | ·00 | 2142·87 | ·00 | ... | ... |
| October 8<br>760 | 156 | 672·45 | +·01 | 2288·49 | −·01 | +·21 | −·03 |
| | 170 | 1559·66 | ·00 | 1656·95 | ·00 | +·07 | +·12 |
| | 174 | 1737·71 | +·01 | 3521·86 | −·01 | +·08 | −·13 |
| | 179 | 2495·60 | ·00 | 3297·19 | ·00 | −·10 | −·03 |
| | 47° 720 | 3575·85 | +·01 | 2380·18 | ·00 | −·15 | ·00 |
| | 187 | 3592·23 | +·03 | 562·06 | −·03 | −·11 | +·06 |
| | Eros | 2156·37 | ·00 | 2163·43 | ·00 | ... | ... |
| October 8<br>761 | 156 | 712·35 | ·00 | 2019·22 | ·00 | +·05 | ·00 |
| | 170 | 1599·64 | ·00 | 1386·63 | ·00 | −·02 | +·23 |
| | 174 | 1778·22 | ·00 | 3252·05 | ·00 | −·02 | −·16 |
| | 179 | 2536·25 | ·00 | 3026·63 | ·00 | −·12 | −·05 |
| | 47° 720 | 3616·41 | ·00 | 2108·36 | ·00 | +·06 | +·07 |
| | 187 | 3632·36 | ·00 | 289·93 | ·00 | +·08 | −·11 |
| | Eros | 2152·84 | ·00 | 2144·25 | ·00 | ... | ... |
| October 9<br>762 | 156 | 926·80 | ·00 | 1143·53 | ·00 | +·20 | +·10 |
| | 157 | 951·38 | +·02 | 3235·73 | −·03 | −·04 | −·01 |
| | 174 | 1991·18 | ·00 | 2378·00 | ·00 | −·10 | −·22 |
| | 179 | 2749·10 | ·00 | 2154·15 | ·00 | −·20 | −·01 |
| | 185 | 3415·05 | +·01 | 3517·97 | −·01 | +·23 | +·06 |
| | 47° 720 | 3829·86 | +·03 | 1238·54 | −·03 | −·09 | +·08 |
| | Eros | 2207·26 | ·00 | 2232·75 | ·00 | ... | ... |
| October 10<br>763 | 157 | 1171·52 | ·00 | 1896·43 | ·00 | +·05 | +·22 |
| | 161 | 1341·18 | +·01 | 2994·54 | −·01 | −·07 | +·06 |
| | 174 | 2212·53 | +·01 | 1039·22 | −·01 | −·09 | −·30 |
| | 179 | 2970·75 | +·02 | 816·81 | −·02 | −·18 | ·00 |
| | 185 | 3634·82 | +·02 | 2181·65 | −·01 | +·30 | +·01 |
| | Eros | 2178·59 | ·00 | 2139·97 | ·00 | ... | ... |
| October 10<br>764 | 157 | 1169·74 | ·00 | 1895·34 | ·00 | −·10 | −·13 |
| | 161 | 1339·07 | +·01 | 2993·33 | −·01 | +·01 | +·26 |
| | 174 | 2210·75 | +·01 | 1038·50 | −·01 | −·10 | −·17 |
| | 179 | 2968·75 | +·02 | 815·71 | −·02 | +·07 | −·19 |
| | 185 | 3633·17 | +·01 | 2180·26 | −·01 | +·10 | +·22 |
| | Eros | 2172·28 | ·00 | 2159·47 | ·00 | ... | ... |
| October 13<br>766 | 151 | 1001·83 | ·00 | 3237·36 | ·00 | −·05 | −·05 |
| | 152 | 1204·04 | ·00 | 1764·90 | ·00 | +·15 | −·11 |
| | 158 | 2229·48 | ·00 | 624·87 | ·00 | −·04 | +·25 |
| 1900.<br>October 13<br>766—*contd.* | 162 | 2564·26 | ·00 | 828·80 | ·00 | −·09 | +·07 |
| | 163 | 2605·13 | ·00 | 3004·01 | ·00 | +·06 | −·04 |
| | 176 | 3721·22 | ·00 | 2505·86 | ·00 | −·03 | −·10 |
| | Eros | 2129·88 | ·00 | 2192·98 | ·00 | ... | ... |
| October 14<br>770 | 150 | 1374·11 | ·00 | 3214·66 | ·00 | +·18 | −·03 |
| | 151 | 1459·46 | ·00 | 2134·13 | ·00 | +·09 | −·13 |
| | 152 | 1666·77 | ·00 | 662·24 | ·00 | −·15 | −·12 |
| | 154 | 2183·63 | ·00 | 3098·14 | ·00 | +·04 | +·08 |
| | 163 | 3063·63 | ·00 | 1905·66 | ·00 | +·01 | +·22 |
| | 168 | 3382·21 | ·00 | 2867·43 | ·00 | −·15 | ·00 |
| | Eros | 2189·71 | ·00 | 2213·93 | ·00 | ... | ... |
| October 14<br>771 | 150 | 1390·36 | ·00 | 3211·80 | ·00 | +·03 | +·08 |
| | 151 | 1476·74 | ·00 | 2131·46 | ·00 | −·13 | −·13 |
| | 152 | 1685·17 | ·00 | 659·58 | ·00 | −·08 | +·05 |
| | 154 | 2199·85 | ·00 | 3096·28 | ·00 | +·02 | −·08 |
| | 163 | 3080·80 | ·00 | 1904·63 | ·00 | +·19 | +·03 |
| | 168 | 3398·51 | ·00 | 2866·46 | ·00 | ·00 | +·05 |
| | Eros | 2197·33 | ·00 | 2233·44 | ·00 | ... | ... |
| October 20<br>778 | 51° 604 | 750·04 | ·00 | 3131·29 | ·00 | −·02 | +·15 |
| | 141 | 1242·62 | ·00 | 3032·41 | ·00 | −·04 | −·05 |
| | 50° 601 | 1913·61 | ·00 | 1517·36 | ·00 | +·27 | +·15 |
| | 144 | 2302·64 | ·00 | 1264·69 | ·00 | +·07 | −·05 |
| | 145 | 2871·92 | ·00 | 3248·13 | ·00 | −·16 | −·03 |
| | 146 | 2995·70 | ·00 | 2061·70 | ·00 | −·14 | −·18 |
| | Eros | 2184·57 | ·00 | 2117·43 | ·00 | ... | ... |
| October 21<br>782 | 137 | 1013·84 | ·00 | 2182·38 | ·00 | −·01 | −·07 |
| | 138 | 1345·65 | +·01 | 3484·32 | −·01 | −·14 | −·07 |
| | 140 | 1757·77 | ·00 | 1096·77 | ·00 | −·02 | +·13 |
| | 139 | 1758·72 | ·00 | 680·69 | ·00 | +·05 | +·16 |
| | 142 | 2762·43 | ·00 | 3196·72 | ·00 | −·06 | +·10 |
| | 145 | 3562·47 | +·01 | 2233·99 | ·00 | +·03 | −·18 |
| | 146 | 3691·53 | +·02 | 1048·07 | −·01 | +·05 | −·06 |
| | Eros | 2331·48 | ·00 | 1873·13 | ·00 | ... | ... |
| October 21<br>783 | 137 | 1012·91 | ·00 | 2180·67 | ·00 | −·01 | −·06 |
| | 138 | 1345·09 | +·01 | 3482·50 | ·00 | ·00 | −·03 |
| | 140 | 1756·48 | ·00 | 1094·82 | ·00 | −·04 | ·00 |
| | 139 | 1757·34 | ·00 | 678·59 | ·00 | −·03 | +·16 |
| | 142 | 2761·89 | ·00 | 3194·35 | ·00 | +·01 | +·03 |
| | 145 | 3561·68 | +·01 | 2231·07 | ·00 | +·02 | −·11 |
| | 146 | 3690·31 | +·02 | 1045·04 | −·01 | +·03 | ·00 |
| | Eros | 2317·72 | ·00 | 1888·91 | ·00 | ... | ... |

TABLE III.—Measured Co-ordinates and Residuals, Thompson 26-inch Refractor.

| Date and Plate No. | No. | x. | Refraction Correction applied. | y. | Refraction Correction applied. | Residuals. | |
|---|---|---|---|---|---|---|---|
| | | | | | | x. | y. |
| | | ″ | ″ | ″ | ″ | ″ | ″ |
| 1900.<br>October 26<br>787 | 120 | 541·26 | +·01 | 2785·67 | −·01 | +·09 | −·04 |
| | 52° 587 | 559·86 | +·01 | 1301·51 | ·00 | +·05 | +·03 |
| | 52° 592 | 1743·17 | ·00 | 500·06 | ·00 | ·00 | −·06 |
| | 132 | 2256·62 | ·00 | 3542·61 | ·00 | +·03 | −·09 |
| ... ... | 52° 595 | 2959·14 | +·01 | 505·48 | −·01 | −·09 | +·14 |
| | 52° 597 | 2993·93 | ·00 | 2560·79 | ·00 | −·09 | −·01 |
| | 53° 546 | 3597·80 | +·01 | 3585·29 | ·00 | ·00 | +·06 |
| | Eros | 2279·31 | ·00 | 1909·98 | ·00 | ... | ... |
| October 26<br>788 | 120 | 544·23 | ·00 | 2787·14 | ·00 | −·07 | +·02 |
| | 52° 587 | 562·44 | ·00 | 1303·10 | ·00 | +·09 | −·09 |
| | 52° 592 | 1745·62 | ·00 | 501·32 | ·00 | +·10 | +·02 |
| ... ... | 132 | 2259·65 | ·00 | 3543·77 | ·00 | −·04 | −·02 |
| | 52° 595 | 2961·67 | +·01 | 506·45 | ·00 | −·03 | +·17 |
| | 52° 597 | 2996·70 | ·00 | 2561·83 | ·00 | −·02 | ·00 |
| | 53° 546 | 3600·79 | +·01 | 3586·40 | ·00 | ·00 | −·09 |
| | Eros | 2268·00 | ·00 | 1923·85 | ·00 | ... | ... |
| October 26<br>789 | 120 | 545·82 | ·00 | 2783·30 | ·00 | +·04 | +·03 |
| | 52° 587 | 563·32 | ·00 | 1299·17 | ·00 | −·01 | −·04 |
| | 52° 592 | 1746·02 | ·00 | 496·68 | ·00 | +·03 | −·10 |
| | 132 | 2261·89 | ·00 | 3538·87 | ·00 | −·05 | −·02 |
| | 52° 595 | 2962·04 | ·00 | 501·09 | ·00 | −·02 | +·10 |
| | 52° 597 | 2998·35 | ·00 | 2556·37 | ·00 | −·01 | +·09 |
| | 53° 546 | 3603·10 | ·00 | 3580·58 | ·00 | −·01 | −·04 |
| | Eros | 2253·44 | ·00 | 1933·41 | ·00 | ... | ... |
| October 26<br>790 | 120 | 552·09 | ·00 | 2785·38 | ·00 | +·06 | −·03 |
| | 52° 587 | 562·25 | ·00 | 1301·03 | ·00 | −·01 | −·02 |
| | 52° 592 | 1741·18 | ·00 | 492·42 | ·00 | −·01 | −·09 |
| | 132 | 2272·11 | ·00 | 3532·05 | ·00 | +·03 | +·01 |
| | 52° 595 | 2957·41 | ·00 | 490·62 | ·00 | −·06 | +·03 |
| | 52° 597 | 3003·90 | ·00 | 2545·71 | ·00 | −·02 | +·07 |
| | 53° 546 | 3613·76 | ·00 | 3566·76 | ·00 | +·04 | +·05 |
| | Eros | 2108·20 | ·00 | 2052·93 | ·00 | ... | ... |
| October 26<br>791 | 120 | 565·89 | ·00 | 2838·49 | ·00 | −·03 | +·11 |
| | 52° 587 | 577·73 | ·00 | 1354·38 | ·00 | +·05 | −·10 |
| | 52° 592 | 1757·69 | ·00 | 547·07 | ·00 | +·02 | −·04 |
| | 132 | 2284·91 | ·00 | 3587·22 | ·00 | +·02 | +·17 |
| | 52° 595 | 2974·00 | ·00 | 546·92 | ·00 | −·11 | −·08 |
| | 52° 597 | 3017·89 | ·00 | 2602·08 | ·00 | −·01 | −·06 |
| | 53° 546 | 3626·49 | ·00 | 3623·79 | ·00 | +·05 | ·00 |
| | Eros | 2096·93 | ·00 | 2128·78 | ·00 | ... | ... |
| October 26<br>792 | 120 | 602·03 | ·00 | 2912·17 | ·00 | +·11 | +·02 |
| | 52° 587 | 608·36 | −·01 | 1427·95 | ·00 | +·12 | ·00 |
| | 52° 592 | 1785·14 | ·00 | 616·03 | ·00 | −·01 | +·03 |
| | 132 | 2323·72 | ·00 | 3654·17 | ·00 | −·04 | −·10 |
| | 52° 595 | 3001·09 | ·00 | 611·02 | ·00 | −·04 | −·04 |
| | 52° 597 | 3052·93 | ·00 | 2665·83 | ·00 | −·17 | +·03 |
| | 53° 546 | 3665·14 | −·01 | 3685·11 | −·01 | ·00 | +·03 |
| ... ... | Eros | 1929·96 | ·00 | 2349·62 | ·00 | ... | ... |
| 1900.<br>October 26<br>793 | 120 | 598·15 | ·00 | 2901·79 | ·00 | −·01 | +·04 |
| | 52° 587 | 607·99 | −·01 | 1417·61 | ·00 | +·21 | +·01 |
| | 52° 592 | 1786·92 | ·00 | 608·66 | ·00 | −·06 | ·00 |
| | 132 | 2317·83 | ·00 | 3647·96 | ·00 | −·08 | −·05 |
| | 52° 595 | 3002·83 | ·00 | 606·58 | ·00 | −·06 | −·03 |
| | 52° 597 | 3049·40 | ·00 | 2661·68 | ·00 | −·07 | −·14 |
| | 53° 546 | 3659·02 | −·02 | 3682·10 | −·01 | +·10 | +·18 |
| ... ... | Eros | 1914·43 | ·00 | 2352·35 | ·00 | ... | ... |
| October 27<br>794 | 116 | 1045·73 | ·00 | 2379·95 | ·00 | −·08 | −·01 |
| | 120 | 1570·27 | ·00 | 2113·16 | ·00 | +·10 | −·02 |
| | 127 | 2097·20 | ·00 | 950·93 | ·00 | −·02 | +·09 |
| | 129 | 2297·12 | ·00 | 3216·75 | ·00 | −·05 | +·01 |
| | 130 | 2737·89 | ·00 | 1286·08 | ·00 | +·08 | +·03 |
| | 132 | 3280·45 | ·00 | 2881·94 | ·00 | ·00 | −·12 |
| | Eros | 2400·12 | ·00 | 1998·88 | ·00 | ... | ... |
| October 27<br>795 | 116 | 691·79 | +·01 | 2386·84 | ·00 | −·13 | +·02 |
| | 120 | 1215·86 | ·00 | 2119·15 | ·00 | +·11 | +·03 |
| | 127 | 1740·96 | ·00 | 956·17 | ·00 | ·00 | ·00 |
| | 129 | 1944·48 | ·00 | 3221·61 | ·00 | −·08 | +·03 |
| | 130 | 2382·22 | ·00 | 1290·20 | ·00 | +·08 | ·00 |
| | 132 | 2927·35 | ·00 | 2885·16 | ·00 | −·01 | −·08 |
| | Eros | 2025·13 | ·00 | 2020·46 | ·00 | ... | ... |
| October 27<br>796 | 116 | 692·49 | ·00 | 2387·72 | ·00 | −·02 | −·04 |
| | 120 | 1216·72 | ·00 | 2119·44 | ·00 | −·08 | +·11 |
| | 127 | 1740·79 | ·00 | 956·04 | ·00 | −·02 | −·04 |
| | 129 | 1946·15 | ·00 | 3221·31 | ·00 | −·07 | +·03 |
| | 130 | 2382·39 | ·00 | 1289·50 | ·00 | +·08 | −·05 |
| | 132 | 2928·77 | ·00 | 2883·88 | ·00 | +·08 | ·00 |
| | Eros | 1871·92 | ·00 | 2137·71 | ·00 | ... | ... |
| October 27<br>797 | 116 | 964·92 | ·00 | 2423·25 | ·00 | −·24 | +·11 |
| | 120 | 1488·31 | ·00 | 2154·11 | ·00 | +·02 | ·00 |
| | 127 | 2010·15 | ·00 | 989·56 | ·00 | −·01 | −·03 |
| | 129 | 2220·05 | ·00 | 3254·51 | ·00 | −·08 | −·02 |
| | 130 | 2652·32 | ·00 | 1321·75 | ·00 | +·19 | −·03 |
| | 132 | 3201·95 | ·00 | 2915·06 | ·00 | +·13 | ·00 |
| | Eros | 2118·11 | ·00 | 2189·33 | ·00 | ... | ... |
| October 27<br>798 | 116 | 947·78 | ·00 | 2422·16 | ·00 | −·03 | +·09 |
| | 120 | 1471·20 | ·00 | 2152·72 | ·00 | −·01 | +·02 |
| ... ... | 127 | 1992·51 | ·00 | 987·96 | ·00 | −·04 | −·02 |
| | 129 | 2203·25 | ·00 | 3252·68 | ·00 | −·17 | −·06 |
| | 130 | 2634·75 | ·00 | 1319·75 | ·00 | +·14 | −·02 |
| | 132 | 3184·76 | ·00 | 2912·62 | ·00 | +·09 | +·01 |
| | Eros | 1909·25 | ·00 | 2318·92 | ·00 | ... | ... |

## TABLE III.—Measured Co-ordinates and Residuals, Thompson 26-inch Refractor.

| Date and Plate No. | No. | x. | Refraction Correction applied. | y. | Refraction Correction applied. | Residuals. | |
|---|---|---|---|---|---|---|---|
| | | | | | | x. | y. |
| | | ″ | ″ | ″ | ″ | ″ | ″ |
| 1900.<br>October 27<br>799 | 116 | 958·41 | ·00 | 2424·39 | ·00 | +·04 | +·05 |
| | 120 | 1481·69 | ·00 | 2154·73 | ·00 | +·09 | +·13 |
| | 127 | 2002·67 | ·00 | 989·73 | ·00 | −·03 | +·02 |
| | 129 | 2214·21 | ·00 | 3254·31 | ·00 | −·19 | −·09 |
| | 130 | 2644·99 | ·00 | 1321·27 | ·00 | +·11 | −·02 |
| | 132 | 3195·65 | −·01 | 2913·96 | ·00 | ·00 | −·09 |
| | Eros | 1903·69 | ·00 | 2331·74 | ·00 | ... | ... |
| October 28<br>800 | 114 | 873·96 | −·01 | 1200·31 | ·00 | +·11 | +·07 |
| | 115 | 1400·53 | ·00 | 2990·87 | ·00 | −·01 | −·09 |
| | 116 | 1541·78 | ·00 | 1057·17 | ·00 | −·06 | +·03 |
| | 117 | 1566·16 | ·00 | 3045·73 | ·00 | +·02 | −·04 |
| | 120 | 2065·89 | ·00 | 789·19 | ·00 | −·04 | +·15 |
| | 129 | 2794·43 | ·00 | 1891·47 | ·00 | ·00 | −·09 |
| | Eros | 1572·16 | ·00 | 1633·64 | ·00 | ... | ... |
| October 29<br>801 | 112 | 650·46 | +·01 | 2283·23 | ·00 | +·22 | −·11 |
| | 113 | 1321·73 | ·00 | 2340·88 | ·00 | +·01 | ·00 |
| | 114 | 2129·23 | ·00 | 1150·39 | ·00 | −·05 | −·05 |
| | 115 | 2631·84 | ·00 | 2947·59 | ·00 | ·00 | +·16 |
| | 117 | 2796·81 | ·00 | 3004·97 | ·00 | −·09 | −·01 |
| | 116 | 2798·74 | +·01 | 1016·41 | ·00 | −·10 | −·01 |
| | Eros | 2332·03 | ·00 | 1932·18 | ·00 | ... | ... |
| October 29<br>802 | 112 | 650·00 | +·01 | 2274·10 | ·00 | +·07 | −·03 |
| | 113 | 1321·29 | ·00 | 2331·98 | ·00 | −·14 | −·05 |
| | 114 | 2128·96 | ·00 | 1441·63 | ·00 | +·08 | −·02 |
| | 115 | 2631·08 | ·00 | 2939·08 | ·00 | −·04 | +·13 |
| | 117 | 2795·97 | ·00 | 2996·52 | ·00 | −·06 | −·03 |
| | 116 | 2798·48 | ·00 | 1007·87 | ·00 | +·09 | ·00 |
| | Eros | 2317·24 | ·00 | 1933·46 | ·00 | ... | ... |
| October 29<br>803 | 112 | 649·17 | +·01 | 2282·98 | ·00 | +·04 | +·06 |
| | 113 | 1320·57 | ·00 | 2338·05 | ·00 | −·03 | −·01 |
| | 114 | 2123·43 | ·00 | 1144·23 | ·00 | +·01 | ·00 |
| | 115 | 2633·05 | ·00 | 2939·63 | ·00 | −·01 | +·11 |
| | 116 | 2792·38 | ·00 | 1007·68 | ·00 | +·05 | −·05 |
| | 117 | 2798·19 | ·00 | 2996·43 | ·00 | +·06 | −·11 |
| | Eros | 2300·79 | ·00 | 1945·35 | ·00 | ... | ... |
| November 6<br>804 | 53° 453 | 351·54 | +·01 | 1519·07 | ·00 | +·10 | −·05 |
| | 95 | 1186·12 | ·00 | 1013·08 | ·00 | +·24 | −·04 |
| | 53° 459 | 1261·82 | ·00 | 550·38 | ·00 | −·11 | +·02 |
| | 54° 470 | 1327·21 | +·01 | 3987·36 | ·00 | −·13 | −·02 |
| | 96 | 1885·39 | ·00 | 2944·70 | ·00 | +·16 | +·10 |
| | 53° 470 | 2126·33 | ·00 | 1345·92 | ·00 | −·08 | −·04 |
| | 54° 483 | 2737·38 | ·00 | 3357·82 | ·00 | +·05 | +·01 |
| | 53° 486 | 3747·02 | +·01 | 1306·85 | −·01 | −·03 | −·06 |
| | 54° 497 | 3822·80 | +·01 | 3297·99 | ·00 | −·25 | +·05 |
| | Eros | 2356·08 | ·00 | 2036·74 | ·00 | ... | ... |
| 1900.<br>November 8<br>806 | 92 | 878·62 | ·00 | 2798·78 | ·00 | +·12 | +·07 |
| | 93 | 949·53 | ·00 | 3434·87 | ·00 | −·07 | −·10 |
| | 94 | 1799·18 | ·00 | 3846·63 | ·00 | +·08 | +·03 |
| | 95 | 2853·72 | ·00 | 1859·43 | ·00 | +·04 | −·03 |
| | 96 | 3537·17 | ·00 | 3796·68 | ·00 | −·02 | +·17 |
| | 98 | 3725·03 | ·00 | 2487·62 | ·00 | −·13 | −·16 |
| | Eros | 1546·55 | ·00 | 3142·97 | ·00 | ... | ... |
| November 8<br>807 | 92 | 877·53 | ·00 | 2804·36 | ·00 | +·11 | +·13 |
| | 93 | 949·23 | ·00 | 3440·36 | ·00 | −·07 | −·04 |
| | 94 | 1799·53 | ·00 | 3851·11 | ·00 | −·09 | +·05 |
| | 95 | 2851·37 | ·00 | 1862·59 | ·00 | +·17 | −·01 |
| | 96 | 3537·21 | ·00 | 3799·10 | ·00 | −·06 | +·10 |
| | 98 | 3723·48 | ·00 | 2489·79 | ·00 | −·05 | −·23 |
| | Eros | 1527·52 | ·00 | 3147·91 | ·00 | ... | ... |
| November 10<br>811 | 81 | 891·59 | −·01 | 2832·28 | ·00 | −·01 | +·04 |
| | 86 | 1760·63 | ·00 | 1008·89 | ·00 | −·13 | −·02 |
| | 87 | 2043·17 | ·00 | 2991·18 | ·00 | −·14 | −·01 |
| | 90 | 2924·67 | ·00 | 781·07 | ·00 | +·07 | ·00 |
| | 92 | 3534·47 | −·01 | 1810·63 | −·01 | +·13 | +·08 |
| | 93 | 3594·29 | −·01 | 2447·70 | −·01 | +·09 | −·11 |
| | Eros | 1854·64 | ·00 | 2090·15 | ·00 | ... | ... |
| November 10<br>812 | 81 | 887·54 | ·00 | 2826·81 | ·00 | −·02 | −·03 |
| | 86 | 1757·45 | ·00 | 1003·89 | ·00 | −·04 | −·04 |
| | 87 | 2038·90 | ·00 | 2986·09 | ·00 | −·06 | +·02 |
| | 90 | 2921·84 | ·00 | 776·52 | ·00 | −·12 | +·04 |
| | 92 | 3530·92 | −·01 | 1806·21 | −·01 | +·09 | +·20 |
| | 93 | 3590·29 | −·01 | 2443·43 | −·01 | +·16 | −·17 |
| | Eros | 1832·93 | ·00 | 2082·24 | ·00 | ... | ... |
| November 13<br>817 | 67 | 1079·52 | ·00 | 2574·04 | ·00 | +·13 | −·03 |
| | 70 | 1548·34 | ·00 | 1873·50 | ·00 | +·05 | +·04 |
| | 71 | 2224·91 | ·00 | 920·18 | ·00 | +·08 | +·01 |
| | 72 | 2431·89 | ·00 | 2968·86 | ·00 | −·05 | −·02 |
| | 74 | 2783·95 | ·00 | 1594·72 | ·00 | −·25 | +·01 |
| | 77 | 3056·17 | ·00 | 2964·83 | ·00 | +·02 | −·04 |
| | Eros | 2360·23 | ·00 | 2136·51 | ·00 | ... | ... |
| November 13<br>818 | 67 | 1081·43 | ·00 | 2573·07 | ·00 | +·18 | +·04 |
| | 70 | 1550·08 | ·00 | 1872·53 | ·00 | +·07 | −·05 |
| | 71 | 2226·51 | ·00 | 918·94 | ·00 | +·01 | −·05 |
| | 72 | 2433·91 | ·00 | 2967·46 | ·00 | −·04 | +·07 |
| | 74 | 2785·62 | ·00 | 1593·28 | ·00 | −·08 | −·01 |
| | 77 | 3058·43 | ·00 | 2963·27 | ·00 | −·12 | +·01 |
| | Eros | 2346·11 | ·00 | 2132·57 | ·00 | ... | ... |

TABLE III.—Measured Co-ordinates and Residuals, Thompson 26-inch Refractor.

| Date and Plate No. | No. | x. | Refraction Correction applied. | y. | Refraction Correction applied. | Residuals. | |
|---|---|---|---|---|---|---|---|
| | | | | | | x. | y. |
| 1900. | | ″ | ″ | ″ | ″ | ″ | ″ |
| November 13 | 67 | 1078·06 | ·00 | 2636·38 | ·00 | +·20 | ·00 |
| 819 | 70 | 1541·20 | ·00 | 1932·03 | ·00 | +·19 | +·03 |
| | 71 | 2210·35 | ·00 | 973·11 | ·00 | +·03 | +·02 |
| | 72 | 2433·53 | ·00 | 3019·88 | ·00 | −·13 | −·06 |
| | 74 | 2774·67 | ·00 | 1642·81 | ·00 | −·21 | +·09 |
| | 77 | 3057·74 | −·01 | 3010·61 | −·01 | −·06 | −·08 |
| | Eros | 1887·57 | ·00 | 2075·29 | ·00 | ... | ... |
| November 13 | 67 | 1076·02 | ·00 | 2633·08 | ·00 | +·18 | +·08 |
| 820 | 70 | 1539·82 | ·00 | 1929·26 | ·00 | +·09 | −·04 |
| | 71 | 2209·66 | ·00 | 970·98 | ·00 | +·03 | −·14 |
| | 72 | 2431·04 | ·00 | 3017·33 | ·00 | −·08 | +·06 |
| | 74 | 2773·32 | ·00 | 1640·92 | ·00 | −·15 | −·03 |
| | 77 | 3055·20 | −·01 | 3008·41 | −·01 | −·08 | +·09 |
| | Eros | 1843·53 | ·00 | 2058·34 | ·00 | ... | ... |
| November 14 | 62 | 1209·71 | ·00 | 2620·51 | ·00 | −·07 | −·02 |
| 821 | 63 | 1210·87 | ·00 | 1380·46 | ·00 | −·03 | −·02 |
| | 64 | 1358·56 | ·00 | 839·29 | ·00 | −·07 | −·04 |
| | 67 | 2127·18 | ·00 | 2911·36 | ·00 | +·03 | ·00 |
| | 70 | 2597·96 | ·00 | 2211·99 | ·00 | ·00 | +·07 |
| | 71 | 3277·22 | ·00 | 1260·44 | ·00 | +·14 | −·01 |
| | Eros | 2077·06 | ·00 | 2107·75 | ·00 | ... | ... |
| November 15 | 60 | 982·66 | ·00 | 2865·22 | ·00 | −·11 | +·09 |
| 822 | 61 | 1385·38 | ·00 | 2888·00 | ·00 | −·02 | −·04 |
| | 63 | 2260·64 | ·00 | 1688·62 | ·00 | +·17 | −·10 |
| | 64 | 2414·73 | ·00 | 1149·12 | ·00 | −·04 | ·00 |
| | 67 | 3159·20 | ·00 | 3229·98 | ·00 | +·06 | +·03 |
| | 70 | 3638·08 | ·00 | 2536·25 | ·00 | −·07 | −·01 |
| | Eros | 2417·55 | ·00 | 2162·54 | ·00 | ... | ... |
| November 15 | 60 | 956·17 | ·00 | 2876·03 | ·00 | −·04 | −·02 |
| 823 | 61 | 1359·06 | ·00 | 2898·43 | ·00 | −·10 | +·09 |
| | 63 | 2233·82 | ·00 | 1698·79 | ·00 | +·18 | −·06 |
| | 64 | 2387·68 | ·00 | 1159·24 | ·00 | +·01 | +·04 |
| | 67 | 3133·01 | ·00 | 3239·89 | ·00 | +·03 | +·01 |
| | 70 | 3611·61 | ·00 | 2546·03 | ·00 | −·06 | −·08 |
| | Eros | 2373·14 | ·00 | 2167·37 | ·00 | ... | ... |
| November 27 | 9 | 868·27 | ·00 | 982·72 | ·00 | +·01 | +·04 |
| 844 | 11 | 1427·65 | ·00 | 3634·42 | ·00 | +·02 | −·14 |
| | 13 | 1654·28 | ·00 | 1096·54 | ·00 | +·10 | +·19 |
| | 21 | 2789·42 | ·00 | 3317·33 | ·00 | −·06 | −·14 |
| | 26 | 3847·79 | +·01 | 1790·64 | ·00 | +·05 | +·06 |
| | 27 | 3873·44 | +·01 | 2734·80 | ·00 | −·13 | +·02 |
| | Eros | 2242·55 | ·00 | 2349·97 | ·00 | ... | ... |
| 1900. | | ″ | ″ | ″ | ″ | ″ | ″ |
| November 27 | 9 | 870·53 | ·00 | 981·27 | ·00 | +·17 | +·29 |
| 845 | 11 | 1421·89 | ·00 | 3634·95 | ·00 | +·14 | −·23 |
| | 13 | 1656·29 | ·00 | 1097·68 | ·00 | +·21 | +·22 |
| | 21 | 2784·88 | ·00 | 3322·02 | ·00 | −·21 | −·25 |
| | 26 | 3847·97 | +·01 | 1798·42 | ·00 | −·18 | +·07 |
| | 27 | 3870·56 | +·01 | 2742·69 | −·01 | −·18 | −·08 |
| | Eros | 2232·22 | ·00 | 2337·93 | ·00 | ... | ... |
| November 27 | 9 | 872·30 | ·00 | 980·01 | ·00 | +·02 | +·08 |
| 846 | 11 | 1422·85 | ·00 | 3633·48 | ·00 | +·07 | −·05 |
| | 13 | 1658·01 | ·00 | 1096·56 | ·00 | +·11 | +·05 |
| | 21 | 2785·97 | ·00 | 3320·88 | ·00 | −·19 | −·12 |
| | 26 | 3849·53 | ·00 | 1797·64 | ·00 | −·09 | +·05 |
| | 27 | 3871·72 | ·00 | 2741·85 | ·00 | +·07 | −·03 |
| | Eros | 2131·53 | ·00 | 2161·43 | ·00 | ... | ... |
| November 27 | 9 | 864·84 | ·00 | 956·86 | ·00 | +·08 | +·14 |
| 847 | 11 | 1429·31 | ·00 | 3607·59 | ·00 | +·06 | −·11 |
| | 13 | 1651·26 | ·00 | 1069·48 | ·00 | +·06 | ·00 |
| | 21 | 2790·64 | ·00 | 3287·96 | ·00 | −·07 | −·14 |
| | 26 | 3846·38 | ·00 | 1759·22 | ·00 | −·12 | +·05 |
| | 27 | 3873·51 | ·00 | 2703·25 | ·00 | −·01 | +·05 |
| | Eros | 2111·35 | ·00 | 2097·80 | ·00 | ... | ... |
| December 6 | 2 | 1057·55 | ·00 | 2671·66 | ·00 | +·15 | +·07 |
| 848 | 5 | 1417·13 | ·00 | 872·85 | ·00 | +·28 | −·02 |
| | 7 | 2049·71 | ·00 | 458·96 | ·00 | −·25 | −·11 |
| | 8 | 2162·80 | ·00 | 3467·33 | ·00 | −·08 | +·08 |
| | 14 | 3497·17 | −·01 | 2461·93 | ·00 | −·01 | +·03 |
| | 17 | 3817·67 | −·01 | 1743·52 | ·00 | −·09 | −·03 |
| | Eros | 2051·94 | ·00 | 2135·86 | ·00 | ... | ... |
| December 6 | 2 | 1051·14 | ·00 | 2667·34 | ·00 | +·09 | +·10 |
| 849 | 5 | 1419·39 | −·01 | 870·42 | −·01 | +·07 | ·00 |
| | 7 | 2053·37 | −·01 | 459·40 | −·01 | +·03 | −·09 |
| | 8 | 2152·34 | −·01 | 3467·80 | −·01 | −·05 | −·13 |
| | 14 | 3491·34 | −·01 | 2468·38 | ·00 | −·02 | +·12 |
| | 17 | 3815·22 | −·01 | 1751·54 | −·01 | −·12 | +·03 |
| | Eros | 2052·61 | ·00 | 2050·94 | ·00 | ... | ... |
| December 6 | 2 | 1056·59 | ·00 | 2667·34 | ·00 | +·26 | +·10 |
| 850 | 5 | 1423·47 | ·00 | 870·45 | ·00 | −·02 | −·07 |
| | 7 | 2056·95 | −·01 | 458·65 | −·01 | +·01 | −·06 |
| | 8 | 2158·56 | −·01 | 3466·16 | −·01 | −·07 | +·08 |
| | 14 | 3496·63 | −·02 | 2465·54 | −·01 | −·12 | ·00 |
| | 17 | 3819·72 | −·02 | 1748·41 | −·01 | −·08 | −·02 |
| | Eros | 2061·38 | ·00 | 2000·87 | ·00 | ... | ... |

TABLE III.—Measured Co-ordinates and Residuals, Thompson 26-inch Refractor.

| Date and Plate No. | No. | x. | Refraction Correction applied. | y. | Refraction Correction applied. | Residuals. |  |
|---|---|---|---|---|---|---|---|
|  |  |  |  |  |  | x. | y. |
| 1900. |  | ″ | ″ | ′ | ″ | ″ | ″ |
| December 7<br>851 | 1 | 500·19 | ·00 | 1193·21 | ·00 | −·06 | −·07 |
|  | 2 | 944·11 | ·00 | 3778·75 | ·00 | +·13 | +·08 |
|  | 3 | 987·89 | ·00 | 666·21 | ·00 | +·05 | +·05 |
|  | 47° 450 | 2903·94 | ·00 | 689·09 | ·00 | +·05 | +·21 |
|  | 14 | 3385·67 | ·00 | 3586·24 | ·00 | −·13 | −·22 |
|  | 17 | 3710·90 | ·00 | 2869·77 | ·00 | −·06 | −·04 |
|  | Eros | 2055·74 | ·00 | 2194·21 | ·00 | ... | ... |
| December 7<br>852 | 1 | 492·77 | ·00 | 1399·21 | ·00 | +·04 | −·03 |
|  | 2 | 944·10 | ·00 | 3983·66 | ·00 | +·17 | −·05 |
|  | 3 | 979·01 | ·00 | 870·86 | ·00 | +·14 | +·06 |
|  | 47° 450 | 2895·32 | ·00 | 888·38 | ·00 | −·05 | +·17 |
|  | 14 | 3385·20 | ·00 | 3783·94 | ·00 | −·17 | −·05 |
|  | 17 | 3708·46 | ·00 | 3066·78 | ·00 | −·15 | −·10 |
|  | Eros | 2052·41 | ·00 | 2365·85 | ·00 | ... | ... |
| December 7<br>853 | 1 | 497·52 | −·02 | 1288·11 | −·02 | −·01 | −·04 |
|  | 2 | 950·10 | −·01 | 3871·37 | −·01 | +·09 | ·00 |
|  | 3 | 983·38 | −·02 | 759·36 | −·02 | +·03 | +·04 |
|  | 47° 450 | 2898·87 | ·00 | 774·70 | ·00 | ·00 | +·18 |
|  | 14 | 3389·97 | −·03 | 3669·04 | −·03 | +·06 | −·08 |
|  | 17 | 3712·96 | −·02 | 2951·68 | −·02 | −·15 | −·09 |
|  | Eros | 2077·80 | ·00 | 1929·91 | ·00 | ... | ... |
| December 7<br>854 | 1 | 508·18 | −·03 | 1289·80 | −·03 | −·05 | −·08 |
|  | 2 | 960·08 | −·01 | 3872·31 | −·01 | +·01 | +·14 |
|  | 3 | 994·00 | −·02 | 761·23 | −·02 | +·10 | −·08 |
|  | 47° 450 | 2909·41 | ·00 | 776·37 | −·01 | −·02 | +·14 |
|  | 14 | 3399·73 | −·03 | 3670·02 | −·03 | +·01 | −·08 |
|  | 17 | 3722·74 | −·03 | 2952·71 | −·03 | −·05 | −·02 |
|  | Eros | 2093·81 | ·00 | 1887·99 | ·00 | ... | ... |
| December 10<br>855 | 46° 373 | 166·82 | ·00 | 1800·72 | ·00 | +·07 | +·23 |
|  | 4 | 388·71 | ·00 | 1779·51 | ·00 | −·03 | −·15 |
|  | 6 | 971·41 | ·00 | 2369·83 | ·00 | +·10 | −·13 |
|  | 10 | 2186·19 | ·00 | 3122·82 | ·00 | −·04 | ·00 |
|  | 16 | 3021·33 | ·00 | 1143·75 | ·00 | −·04 | −·05 |
|  | 46° 397 | 3539·89 | ·00 | 981·96 | ·00 | +·01 | +·23 |
|  | 47° 462 | 3637·60 | ·00 | 3657·87 | ·00 | −·05 | −·16 |
|  | Eros | 2023·59 | ·00 | 2441·23 | ·00 | ... | ... |
| December 10<br>856 | 46° 373 | 155·26 | ·00 | 1819·99 | ·00 | +·09 | +·12 |
|  | 4 | 377·07 | ·00 | 1797·18 | ·00 | −·06 | +·05 |
|  | 6 | 963·22 | ·00 | 2384·28 | ·00 | +·09 | −·08 |
|  | 10 | 2182·40 | ·00 | 3130·31 | ·00 | −·04 | −·03 |
|  | 16 | 3006·17 | ·00 | 1146·35 | ·00 | −·12 | −·06 |
|  | 46° 397 | 3523·67 | ·00 | 981·72 | ·00 | +·04 | +·03 |
|  | 47° 462 | 3636·94 | ·00 | 3656·80 | ·00 | −·03 | −·04 |
| ... | Eros | 2020·39 | ·00 | 2424·68 | ·00 | ... | ... |

| Date and Plate No. | No. | x. | Refraction Correction applied. | y. | Refraction Correction applied. | Residuals. |  |
|---|---|---|---|---|---|---|---|
|  |  |  |  |  |  | x. | y. |
| 1900. |  | ″ | ″ | ″ | ″ | ″ | ″ |
| December 13<br>858 | 12 | 1079·32 | ·00 | 717·64 | ·00 | +·10 | +·05 |
|  | 15 | 1477·75 | ·00 | 3243·81 | ·00 | −·06 | ·00 |
|  | 18 | 1798·41 | ·00 | 653·89 | ·00 | +·02 | −·02 |
|  | 20 | 2224·91 | ·00 | 3591·30 | ·00 | −·03 | +·15 |
|  | 22 | 3276·33 | ·00 | 2305·09 | ·00 | −·06 | −·04 |
|  | 24 | 3516·55 | ·00 | 1782·63 | ·00 | +·04 | −·14 |
|  | Eros | 1965·04 | ·00 | 2432·80 | ·00 | ... | ... |
| December 13<br>859 | 12 | 1077·24 | ·00 | 717·73 | ·00 | +·18 | +·07 |
|  | 15 | 1479·09 | ·00 | 3243·35 | ·00 | −·08 | +·04 |
|  | 18 | 1796·21 | ·00 | 653·06 | ·00 | +·14 | −·02 |
|  | 20 | 2226·74 | ·00 | 3590·01 | ·00 | −·08 | +·07 |
|  | 22 | 3276·45 | ·00 | 2302·48 | ·00 | −·07 | −·18 |
|  | 24 | 3516·09 | ·00 | 1779·43 | ·00 | −·08 | −·01 |
|  | Eros | 1972·15 | ·00 | 2409·54 | ·00 | ... | ... |
| December 13<br>860 | 12 | 1075·74 | ·00 | 714·66 | ·00 | +·17 | −·01 |
|  | 15 | 1474·89 | ·00 | 3240·58 | ·00 | −·08 | +·11 |
|  | 18 | 1794·85 | ·00 | 650·66 | ·00 | +·06 | −·02 |
|  | 20 | 2222·15 | ·00 | 3588·08 | ·00 | −·05 | +·05 |
|  | 22 | 3273·29 | ·00 | 2301·60 | ·00 | −·11 | −·13 |
|  | 24 | 3513·38 | ·00 | 1778·86 | ·00 | −·01 | ·00 |
|  | Eros | 1975·69 | ·00 | 2385·48 | ·00 | ... | ... |
| December 13<br>861 | 12 | 1080·49 | −·01 | 704·17 | −·01 | −·12 | −·11 |
|  | 15 | 1486·19 | ·00 | 3228·10 | ·00 | +·16 | +·08 |
|  | 18 | 1798·90 | −·01 | 637·78 | −·01 | +·05 | −·16 |
|  | 20 | 2234·47 | −·01 | 3572·88 | −·01 | −·09 | +·13 |
|  | 22 | 3281·51 | −·01 | 2283·00 | ·00 | −·04 | +·05 |
|  | 24 | 3520·05 | −·01 | 1759·74 | −·01 | +·04 | −·02 |
| ... | Eros | 2113·29 | ·00 | 1974·86 | ·00 | ... | ... |
| December 15<br>863 | 18 | 511·48 | +·01 | 3335·00 | ·00 | +·23 | −·03 |
|  | 19 | 600·84 | ·00 | 1925·93 | ·00 | +·35 | −·13 |
|  | 25 | 2436·35 | ·00 | 278·52 | ·00 | −·10 | +·20 |
|  | 31 | 3217·64 | ·00 | 3558·11 | ·00 | −·23 | −·08 |
|  | 33 | 3493·11 | ·00 | 2700·10 | ·00 | −·12 | −·07 |
|  | 34 | 3577·65 | ·00 | 948·67 | ·00 | −·16 | +·11 |
| ... | Eros | 1893·92 | ·00 | 2281·38 | ·00 | ... | ... |
| December 15<br>864 | 18 | 517·19 | ·00 | 3370·37 | ·00 | +·16 | +·05 |
|  | 19 | 595·04 | ·00 | 1960·72 | ·00 | +·19 | −·24 |
|  | 25 | 2416·89 | ·00 | 298·01 | ·00 | −·08 | +·29 |
|  | 31 | 3225·13 | ·00 | 3571·15 | ·00 | −·10 | ·00 |
|  | 33 | 3493·66 | ·00 | 2711·03 | ·00 | −·10 | −·16 |
|  | 34 | 3563·77 | ·00 | 958·78 | ·00 | −·10 | +·09 |
| ... | Eros | 1900·66 | ·00 | 2281·92 | ·00 | ... | ... |

TABLE III.—Measured Co-ordinates and Residuals, Thompson 26-inch Refractor.

| Date and Plate No. | No. | x. | Refraction Correction applied. | y. | Refraction Correction applied. | Residuals. | |
|---|---|---|---|---|---|---|---|
| | | | | | | x. | y. |
| 1900. | | ″ | ″ | ″ | ″ | ″ | ″ |
| December 15 | 18 | 518·21 | ·00 | 3369·90 | ·00 | +·19 | +·03 |
| 865 | 19 | 596·64 | ·00 | 1960·22 | ·00 | +·18 | −·20 |
| | 25 | 2419·07 | ·00 | 298·28 | ·00 | −·01 | +·18 |
| | 31 | 3226·15 | ·00 | 3571·70 | ·00 | −·11 | −·03 |
| | 33 | 3495·03 | ·00 | 2711·62 | ·00 | −·15 | −·14 |
| | 34 | 3565·78 | ·00 | 959·33 | ·00 | −·12 | +·17 |
| | Eros | 1912·75 | ·00 | 2255·77 | ·00 | ... | ... |
| December 15 | 18 | 554·51 | −·01 | 3542·29 | ·00 | −·03 | −·20 |
| 866 | 19 | 627·05 | −·01 | 2131·92 | ·00 | +·14 | +·01 |
| | 25 | 2442·51 | ·00 | 462·57 | ·00 | −·04 | +·12 |
| | 31 | 3262·54 | −·01 | 3732·29 | −·01 | +·08 | +·07 |
| | 33 | 3527·97 | −·01 | 2871·06 | ·00 | −·02 | +·01 |
| | 34 | 3591·76 | −·01 | 1118·88 | ·00 | −·14 | −·01 |
| | Eros | 2079·79 | ·00 | 2080·73 | ·00 | ... | ... |
| December 15 | 18 | 553·76 | −·01 | 3552·76 | −·01 | +·03 | −·06 |
| 867 | 19 | 628·00 | −·01 | 2142·89 | −·01 | +·09 | +·01 |
| | 25 | 2444·91 | −·01 | 475·25 | −·01 | −·05 | ·00 |
| | 31 | 3261·10 | −·02 | 3744·64 | −·02 | −·01 | −·02 |
| | 33 | 3527·37 | −·02 | 2883·74 | −·01 | −·01 | +·07 |
| | 34 | 3593·07 | −·01 | 1132·05 | ·00 | −·07 | ·00 |
| | Eros | 2136·89 | ·00 | 1962·66 | ·00 | ... | ... |
| December 15 | 18 | 553·92 | ·00 | 3550·50 | ·00 | −·02 | −·19 |
| 868 | 19 | 626·77 | ·00 | 2140·69 | ·00 | +·10 | −·12 |
| | 25 | 2442·14 | −·01 | 470·90 | −·01 | −·16 | +·20 |
| | 31 | 3261·12 | ·00 | 3739·21 | ·00 | +·09 | +·08 |
| | 33 | 3526·52 | ·00 | 2878·19 | ·00 | +·14 | −·02 |
| | 34 | 3590·78 | ·00 | 1126·50 | ·00 | −·12 | +·06 |
| | Eros | 2146·49 | ·00 | 1934·36 | ·00 | ... | ... |
| December 17 | 44° 335 | 521·52 | ·00 | 2035·71 | ·00 | −·15 | −·08 |
| 869 | 25 | 954·32 | ·00 | 3336·71 | ·00 | +·16 | −·07 |
| | 29 | 1609·28 | ·00 | 887·69 | ·00 | −·02 | +·07 |
| | 35 | 2533·25 | ·00 | 3821·41 | ·00 | +·01 | +·06 |
| | 41 | 3373·00 | ·00 | 1197·46 | ·00 | +·05 | +·08 |
| | 42 | 3610·80 | ·00 | 2729·41 | ·00 | −·06 | −·04 |
| | Eros | 1919·99 | ·00 | 2395·07 | ·00 | ... | ... |
| December 17 | 44° 335 | 500·78 | ·00 | 2111·27 | ·00 | −·03 | −·08 |
| 870 | 25 | 931·30 | ·00 | 3413·14 | ·00 | +·20 | −·16 |
| | 29 | 1590·82 | ·00 | 965·20 | ·00 | −·09 | +·08 |
| | 35 | 2509·48 | ·00 | 3900·48 | ·00 | −·07 | +·18 |
| | 41 | 3354·02 | ·00 | 1278·17 | ·00 | −·03 | +·06 |
| | 42 | 3588·89 | ·00 | 2810·53 | ·00 | ·00 | −·05 |
| | Eros | 1910·78 | ·00 | 2449·26 | ·00 | ... | ... |
| 1900. | | ″ | ″ | ″ | ″ | ″ | ″ |
| December 17 | 44° 335 | 532·94 | ·00 | 2042·23 | ·00 | −·03 | −·13 |
| 871 | 25 | 964·77 | ·00 | 3343·56 | ·00 | +·28 | −·13 |
| | 29 | 1621·69 | ·00 | 894·84 | ·00 | −·02 | +·13 |
| | 35 | 2543·61 | ·00 | 3829·25 | ·00 | −·11 | +·16 |
| | 41 | 3385·37 | ·00 | 1206·05 | ·00 | −·09 | +·02 |
| | 42 | 3621·84 | ·00 | 2738·12 | ·00 | −·02 | −·03 |
| | Eros | 1952·90 | ·00 | 2359·09 | ·00 | ... | ... |
| December 19 | 36 | 824·21 | ·00 | 2748·39 | ·00 | −·11 | −·07 |
| 872 | 39 | 1056·67 | ·00 | 1732·04 | ·00 | −·09 | −·14 |
| | 45 | 2190·44 | ·00 | 3495·23 | ·00 | +·09 | +·32 |
| | 46 | 2810·90 | ·00 | 1204·54 | ·00 | −·10 | −·11 |
| | 47 | 3074·83 | ·00 | 3039·97 | ·00 | +·11 | +·17 |
| | 48 | 3633·34 | ·00 | 1813·03 | ·00 | +·08 | −·15 |
| | Eros | 1811·85 | ·00 | 2529·06 | ·00 | ... | ... |
| December 19 | 36 | 821·14 | ·00 | 2751·29 | ·00 | −·07 | −·09 |
| 873 | 39 | 1053·66 | ·00 | 1734·90 | ·00 | −·04 | −·09 |
| | 45 | 2187·35 | ·00 | 3498·30 | ·00 | +·09 | +·25 |
| | 46 | 2807·92 | ·00 | 1207·58 | ·00 | ·00 | −·12 |
| | 47 | 3071·88 | ·00 | 3043·06 | ·00 | +·03 | +·04 |
| | 48 | 3630·47 | ·00 | 1816·09 | ·00 | +·02 | ·00 |
| | Eros | 1820·95 | ·00 | 2511·31 | ·00 | ... | ... |
| December 19 | 36 | 819·35 | ·00 | 2749·42 | ·00 | +·01 | −·10 |
| 874 | 39 | 1052·89 | ·00 | 1733·22 | ·00 | +·03 | −·07 |
| | 45 | 2184·98 | ·00 | 3497·82 | ·00 | +·01 | +·14 |
| | 46 | 2807·76 | ·00 | 1207·44 | ·00 | −·02 | +·04 |
| | 47 | 3069·95 | ·00 | 3043·34 | ·00 | −·03 | +·03 |
| | 48 | 3629·67 | ·00 | 1816·91 | ·00 | +·03 | −·03 |
| | Eros | 1832·25 | ·00 | 2488·47 | ·00 | ... | ... |
| December 19 | 36 | 864·78 | ·00 | 2650·97 | ·00 | +·03 | −·04 |
| 875 | 39 | 1089·97 | ·00 | 1632·97 | ·00 | +·01 | −·05 |
| | 45 | 2236·23 | ·00 | 3387·88 | ·00 | +·09 | +·02 |
| | 47 | 3117·43 | −·01 | 2925·85 | ·00 | −·08 | −·01 |
| | 48 | 3667·00 | −·01 | 1694·69 | ·00 | −·03 | +·09 |
| | Eros | 2105·55 | ·00 | 1970·64 | ·00 | ... | ... |
| December 19 | 36 | 862·94 | ·00 | 2652·75 | ·00 | −·01 | +·02 |
| 876 | 39 | 1087·98 | −·01 | 1634·76 | ·00 | −·05 | −·02 |
| | 45 | 2234·42 | ·00 | 3389·23 | ·00 | +·02 | +·11 |
| | 46 | 2837·97 | ·00 | 1093·76 | ·00 | +·01 | +·02 |
| | 47 | 3115·39 | −·01 | 2927·06 | −·01 | +·05 | −·02 |
| | 48 | 3664·77 | −·01 | 1695·94 | ·00 | +·01 | −·09 |
| | Eros | 2127·49 | ·00 | 1931·58 | ·00 | ... | ... |

TABLE III.—Measured Co-ordinates and Residuals, Thompson 26-inch Refractor.

| Date and Plate No. | No. | x. | Refraction Correction applied. | y. | Refraction Correction applied. | Residuals. | | Date and Plate No. | No. | x. | Refraction Correction applied. | y. | Refraction Correction applied. | Residuals. | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | x. | y. | | | | | | | x. | y. |
| | | ″ | ″ | ″ | ″ | ″ | ″ | | | ″ | ″ | ″ | ″ | ″ | ″ |
| 1900.<br>December 19<br>877 | 36 | 863·13 | −·01 | 2649·82 | −·01 | −·09 | +·01 | 1900.<br>December 26<br>883 | 65 | 823·43 | ·00 | 2860·72 | ·00 | +·03 | +·04 |
| | 39 | 1092·13 | −·01 | 1632·97 | −·01 | +·03 | −·07 | | 66 | 996·96 | ·00 | 1096·83 | ·00 | −·34 | −·13 |
| | 45 | 2231·45 | −·01 | 3390·45 | −·01 | −·01 | +·13 | | 68 | 1474·59 | ·00 | 750·73 | ·00 | +·08 | −·13 |
| | 46 | 2843·75 | ·00 | 1097·81 | ·00 | +·12 | +·01 | | 69 | 1685·56 | ·00 | 3409·40 | ·00 | +·10 | −·07 |
| | 47 | 3114·08 | −·02 | 2931·33 | −·02 | −·11 | −·08 | | 73 | 3446·16 | ·00 | 1560·67 | ·00 | −·11 | +·08 |
| | 48 | 3668·06 | −·01 | 1702·39 | −·01 | +·07 | +·01 | | 76 | 3832·71 | ·00 | 2488·65 | ·00 | +·23 | +·19 |
| | Eros | 2186·49 | ·00 | 1841·09 | ·00 | ... | ... | | Eros | 1813·36 | ·00 | 2389·63 | ·00 | ... | ... |
| December 21<br>878 | 42° 360 | 458·70 | +·01 | 2548·45 | ·00 | −·05 | +·03 | December 26<br>884 | 65 | 828·18 | ·00 | 2871·05 | ·00 | −·01 | +·01 |
| | 50 | 1782·64 | ·00 | 1178·34 | ·00 | −·30 | −·17 | | 66 | 998·44 | ·00 | 1106·79 | ·00 | −·31 | −·10 |
| | 52 | 2038·25 | ·00 | 3776·77 | ·00 | ·00 | −·03 | | 68 | 1475·43 | ·00 | 759·79 | ·00 | +·13 | −·06 |
| | 56 | 3135·43 | ·00 | 2864·16 | ·00 | +·05 | ·00 | | 69 | 1691·32 | ·00 | 3418·07 | ·00 | +·06 | −·02 |
| | 57 | 3197·71 | +·01 | 933·15 | −·01 | +·12 | +·14 | | 73 | 3448·40 | ·00 | 1566·19 | ·00 | ·00 | +·04 |
| | 58 | 3862·13 | ·00 | 1846·57 | ·00 | +·16 | +·03 | | 76 | 3836·82 | ·00 | 2493·50 | ·00 | +·14 | +·13 |
| | Eros | 1776·61 | ·00 | 2531·96 | ·00 | ... | .. | | Eros | 1840·77 | ·00 | 2370·53 | ·00 | ... | ... |
| December 21<br>879 | 42° 360 | 457·00 | ·00 | 2544·50 | ·00 | −·13 | +·05 | December 28<br>885 | 75 | 673·34 | ·00 | 1980·09 | ·00 | +·02 | −·01 |
| | 50 | 1777·84 | ·00 | 1171·58 | ·00 | −·05 | −·06 | | 78 | 1334·16 | ·00 | 3270·14 | ·00 | −·07 | −·05 |
| | 52 | 2039·03 | ·00 | 3769·70 | ·00 | −·07 | −·10 | | 79 | 1719·58 | ·00 | 1131·20 | ·00 | −·04 | +·05 |
| | 56 | 3134·29 | ·00 | 2854·71 | ·00 | +·09 | +·06 | | 82 | 2431·47 | ·00 | 349·44 | ·00 | +·11 | +·17 |
| | 57 | 3192·74 | ·00 | 923·72 | ·00 | +·08 | +·02 | | 84 | 3020·29 | ·00 | 3744·98 | ·00 | +·01 | −·14 |
| | 58 | 3859·09 | ·00 | 1835·71 | ·00 | +·05 | ·00 | | 85 | 3122·20 | ·00 | 2198·65 | ·00 | ·00 | ·00 |
| | Eros | 1787·13 | ·00 | 2506·64 | ·00 | ... | ... | | Eros | 1900·05 | ·00 | 2279·42 | ·00 | ... | ... |
| December 21<br>880 | 42° 360 | 482·23 | −·01 | 2464·95 | ·00 | −·27 | −·05 | December 28<br>886 | 75 | 705·45 | −·01 | 1885·97 | ·00 | +·05 | −·06 |
| | 50 | 1799·88 | ·00 | 1089·02 | ·00 | +·05 | −·10 | | 78 | 1373·03 | ·00 | 3172·06 | ·00 | +·08 | −·13 |
| | 52 | 2066·47 | ·00 | 3686·24 | ·00 | −·06 | +·02 | | 79 | 1746·89 | ·00 | 1031·02 | ·00 | −·05 | +·17 |
| | 56 | 3159·55 | ·00 | 2768·99 | ·00 | +·25 | −·06 | | 82 | 2454·48 | −·01 | 245·35 | −·01 | −·01 | +·23 |
| | 57 | 3214·27 | ·00 | 837·76 | ·00 | +·03 | +·14 | | 84 | 3061·51 | −·01 | 3637·08 | −·01 | ·00 | −·17 |
| | 58 | 3882·35 | −·01 | 1748·24 | ·00 | +·02 | +·03 | | 85 | 3155·09 | ·00 | 2090·45 | ·00 | −·09 | −·07 |
| | Eros | 2071·93 | ·00 | 2021·72 | ·00 | ... | ... | | Eros | 2109·46 | ·00 | 1987·73 | ·00 | ... | ... |
| December 21<br>881 | 42° 360 | 489·04 | −·01 | 2463·82 | ·00 | −·07 | +·04 | December 29<br>887 | 82 | 834·17 | ·00 | 1846·97 | ·00 | +·06 | +·01 |
| | 50 | 1807·12 | ·00 | 1088·16 | ·00 | +·08 | −·07 | | 83 | 933·71 | ·00 | 967·78 | ·00 | +·01 | +·04 |
| | 52 | 2072·98 | ·00 | 3685·33 | ·00 | −·01 | −·02 | | 85 | 1542·67 | ·00 | 3689·40 | ·00 | −·09 | −·04 |
| | 56 | 3166·44 | −·01 | 2768·20 | ·00 | +·09 | −·03 | | 39° 457 | 2871·30 | ·00 | 3465·11 | ·00 | +·04 | +·01 |
| | 57 | 3221·54 | ·00 | 837·09 | ·00 | −·04 | +·18 | | 89 | 3178·67 | ·00 | 787·65 | ·00 | −·02 | ·00 |
| | 58 | 3889·35 | −·01 | 1747·78 | ·00 | −·04 | −·12 | | 91 | 3565·19 | ·00 | 1625·31 | ·00 | −·01 | −·04 |
| | Eros | 2112·54 | ·00 | 1970·47 | ·00 | ... | ... | | Eros | 1828·76 | ·00 | 2298·41 | ·00 | ... | ... |
| December 21<br>882 | 42° 360 | 488·17 | −·01 | 2465·55 | −·01 | −·01 | −·06 | 1901.<br>January 2<br>889 | 97 | 791·56 | −·01 | 2213·76 | −·01 | +·05 | +·17 |
| | 50 | 1806·49 | −·01 | 1089·90 | −·01 | +·07 | −·01 | | 36° 426 | 815·14 | −·01 | 1237·09 | −·01 | +·04 | +·01 |
| | 52 | 2071·79 | −·01 | 3686·68 | −·02 | −·06 | +·12 | | 100 | 1456·84 | ·00 | 2985·85 | ·00 | −·05 | −·03 |
| | 56 | 3165·33 | −·01 | 2769·86 | −·01 | +·06 | −·08 | | 37° 505 | 3116·74 | −·02 | 3774·83 | −·02 | −·02 | −·05 |
| | 57 | 3220·84 | ·00 | 839·03 | −·01 | −·07 | +·05 | | 36° 440 | 3141·54 | ·00 | 951·63 | ·00 | +·19 | −·06 |
| | 58 | 3888·33 | −·01 | 1749·40 | −·01 | −·01 | −·02 | | 101 | 3681·74 | −·02 | 2647·24 | −·01 | −·15 | +·01 |
| | Eros | 2144·40 | ·00 | 1924·28 | ·00 | ... | ... | | Eros | 2105·24 | ·00 | 2036·92 | ·00 | | |

TABLE III.—Measured Co-ordinates and Residuals, Thompson 26-inch Refractor.

| Date and Plate No. | No. | x. | Refraction Correction applied. | y. | Refraction Correction applied. | Residuals. | |
|---|---|---|---|---|---|---|---|
| | | | | | | x. | y. |
| 1901. | | ″ | ″ | ″ | ″ | ″ | ″ |
| January 2<br>890 | 97 | 776·95 | −·01 | 2207·26 | −·01 | −·23 | −·08 |
| | 36° 426 | 800·09 | −·02 | 1230·32 | −·01 | +·18 | +·10 |
| | 100 | 1441·78 | ·00 | 2978·83 | ·00 | +·09 | +·02 |
| | 37° 505 | 3101·55 | −·03 | 3767·29 | −·03 | +·14 | +·11 |
| | 36° 440 | 3126·54 | ·00 | 944·59 | ·00 | +·10 | −·14 |
| | 101 | 3666·73 | −·02 | 2639·84 | −·02 | −·25 | +·02 |
| | Eros | 2123·56 | ·00 | 2001·04 | ·00 | ... | ... |
| January 4<br>891 | 102 | 632·81 | ·00 | 801·31 | ·00 | −·11 | +·06 |
| | 36° 450 | 921·95 | ·00 | 2477·61 | ·00 | +·32 | +·06 |
| | 103 | 1414·50 | ·00 | 3691·37 | ·00 | −·13 | +·04 |
| | 36° 458 | 2425·46 | ·00 | 2195·51 | ·00 | −·38 | −·11 |
| | 104 | 2593·59 | ·00 | 844·09 | ·00 | +·27 | −·06 |
| | 105 | 3325·82 | ·00 | 3288·46 | ·00 | +·04 | +·01 |
| | Eros | 1358·54 | ·00 | 2564·98 | ·00 | ... | ... |
| January 4<br>892 | 102 | 860·79 | ·00 | 657·31 | ·00 | +·03 | +·13 |
| | 36° 450 | 1149·19 | ·00 | 2334·02 | ·00 | −·12 | −·06 |
| | 103 | 1640·34 | ·00 | 3548·08 | ·00 | −·14 | +·09 |
| | 36° 458 | 2652·19 | ·00 | 2053·01 | ·00 | −·08 | −·13 |
| | 104 | 2821·78 | ·00 | 701·66 | ·00 | +·18 | −·04 |
| | 105 | 8551·86 | ·00 | 3146·63 | ·00 | +·13 | +·02 |
| | Eros | 1622·59 | ·00 | 2390·48 | ·00 | ... | ... |
| January 5<br>894 | 36° 458 | 697·80 | ·00 | 3611·29 | ·00 | −·26 | −·01 |
| | 104 | 857·32 | ·00 | 2258·72 | ·00 | +·09 | +·06 |
| | 106 | 2242·73 | ·00 | 596·05 | ·00 | +·03 | +·09 |
| | 107 | 2346·52 | ·00 | 2562·21 | ·00 | +·18 | +·02 |
| | 36° 464 | 2428·36 | ·00 | 3636·45 | ·00 | ·00 | +·02 |
| | 109 | 3508·44 | ·00 | 1125·19 | ·00 | +·01 | −·14 |
| | 110 | 3779·39 | ·00 | 2568·51 | ·00 | −·04 | −·07 |
| | Eros | 1764·73 | ·00 | 2291·60 | ·00 | ... | ... |
| January 5<br>895 | 36° 458 | 691·88 | ·00 | 3612·36 | ·00 | −·09 | −·05 |
| | 104 | 851·63 | ·00 | 2259·78 | ·00 | +·13 | +·04 |
| | 106 | 2237·13 | ·00 | 597·11 | ·00 | +·14 | +·17 |
| | 107 | 2340·95 | ·00 | 2563·29 | ·00 | +·08 | +·08 |
| | 36° 464 | 2422·68 | ·00 | 3637·65 | ·00 | −·09 | −·04 |
| | 109 | 3502·98 | ·00 | 1126·28 | ·00 | −·10 | −·01 |
| | 110 | 3773·72 | ·00 | 2569·86 | ·00 | −·07 | −·17 |
| | Eros | 1792·12 | ·00 | 2265·55 | ·00 | ... | ... |
| January 5<br>896 | 36° 458 | 699·20 | −·01 | 3610·56 | −·01 | −·27 | +·12 |
| | 104 | 858·89 | ·00 | 2258·23 | ·00 | −·08 | +·09 |
| | 106 | 2243·86 | ·00 | 595·54 | −·01 | +·09 | −·07 |
| | 107 | 2347·47 | ·00 | 2561·31 | ·00 | +·32 | −·04 |
| | 36° 464 | 2429·45 | −·01 | 3635·34 | −·01 | −·07 | +·02 |
| | 109 | 3509·37 | −·01 | 1123·98 | ·00 | −·02 | −·06 |
| | 110 | 3780·10 | −·01 | 2567·13 | −·01 | +·03 | −·06 |
| | Eros | 2018·80 | ·00 | 2082·03 | ·00 | ... | ... |
| 1901. | | ″ | ″ | ″ | ″ | ″ | ″ |
| January 5<br>897 | 36° 458 | 674·31 | −·01 | 3615·52 | −·01 | −·06 | +·09 |
| | 104 | 834·19 | −·01 | 2263·56 | −·01 | +·04 | −·02 |
| | 106 | 2219·10 | −·01 | 600·57 | −·01 | +·14 | +·04 |
| | 107 | 2322·81 | ·00 | 2565·89 | ·00 | +·03 | −·05 |
| | 36° 464 | 2404·26 | −·01 | 3639·55 | −·02 | +·04 | +·05 |
| | 109 | 3484·34 | −·01 | 1128·57 | ·00 | −·05 | −·14 |
| | 110 | 3755·00 | −·02 | 2571·03 | −·02 | −·13 | +·06 |
| | Eros | 2095·59 | ·00 | 2004·72 | ·00 | ... | ... |
| January 5<br>898 | 36° 458 | 714·87 | −·01 | 3614·75 | −·01 | −·21 | +·11 |
| | 104 | 874·67 | −·01 | 2263·03 | −·01 | +·20 | +·08 |
| | 106 | 2260·00 | −·01 | 600·17 | −·02 | −·05 | +·10 |
| | 107 | 2363·13 | ·00 | 2565·13 | ·00 | +·07 | −·14 |
| | 36° 464 | 2444·47 | −·02 | 3638·56 | −·03 | −·02 | −·09 |
| | 109 | 3524·76 | −·01 | 1127·78 | −·01 | −·04 | −·10 |
| | 110 | 3794·94 | −·03 | 2569·91 | −·03 | +·05 | +·01 |
| | Eros | 2177·85 | ·00 | 1970·77 | ·00 | ... | ... |
| January 9<br>899 | 126 | 387·06 | ·00 | 717·98 | ·00 | −·11 | +·04 |
| | 128 | 800·81 | ·00 | 1287·16 | ·00 | +·02 | +·01 |
| | 34° 449 | 1512·12 | ·00 | 3831·56 | ·00 | +·12 | −·06 |
| | 34° 457 | 2521·25 | ·00 | 3412·48 | ·00 | −·12 | −·15 |
| | 133 | 2875·31 | ·00 | 654·78 | ·00 | +·17 | +·11 |
| | 135 | 3852·07 | ·00 | 1913·67 | ·00 | −·09 | +·08 |
| | Eros | 1585·02 | ·00 | 2427·96 | ·00 | ... | ... |
| January 9<br>900 | 126 | 400·73 | ·00 | 732·12 | ·00 | −·18 | +·12 |
| | 128 | 814·83 | ·00 | 1301·42 | ·00 | +·02 | −·35 |
| | 34° 449 | 1528·14 | ·00 | 3844·75 | ·00 | +·10 | +·12 |
| | 34° 457 | 2536·86 | ·00 | 3424·88 | ·00 | −·06 | ·00 |
| | 133 | 2888·93 | ·00 | 667·14 | ·00 | +·03 | ·00 |
| | 135 | 3866·43 | ·00 | 1925·15 | ·00 | +·08 | +·10 |
| | Eros | 1634·49 | ·00 | 2415·93 | ·00 | ... | ... |
| January 9<br>901 | 126 | 422·53 | ·00 | 779·22 | ·00 | +·06 | +·23 |
| | 128 | 838·06 | ·00 | 1347·61 | ·00 | −·17 | −·12 |
| | 34° 449 | 1555·61 | ·00 | 3890·09 | ·00 | +·06 | −·02 |
| | 34° 457 | 2563·64 | ·00 | 3468·51 | ·00 | −·11 | −·17 |
| | 133 | 2910·84 | ·00 | 709·94 | ·00 | +·15 | +·06 |
| | Eros | 1682·19 | ·00 | 2444·10 | ·00 | ... | ... |
| January 14<br>904 | 153 | 552·00 | ·00 | 3378·22 | ·00 | −·20 | −·08 |
| | 155 | 1241·52 | ·00 | 1624·94 | ·00 | +·04 | +·11 |
| | 159 | 1738·40 | ·00 | 3096·11 | ·00 | +·05 | −·19 |
| | 160 | 1769·04 | ·00 | 1345·57 | ·00 | −·04 | +·08 |
| | 167 | 2582·22 | ·00 | 1876·48 | ·00 | +·02 | +·19 |
| | 173 | 2935·83 | ·00 | 3381·68 | ·00 | +·08 | −·13 |
| | Eros | 1434·86 | ·00 | 2473·31 | ·00 | ... | ... |

TABLE III.—Measured Co-ordinates and Residuals, Thompson 26-inch Refractor.

| Date and Plate No. | No. | x. | Refraction Correction applied. | y. | Refraction Correction applied. | Residuals. | |
|---|---|---|---|---|---|---|---|
| | | | | | | x. | y. |
| 1901. | | " | " | " | " | " | " |
| January 14 | 153 | 552·32 | ·00 | 3378·48 | ·00 | −·09 | +·05 |
| 905 | 155 | 1241·08 | ·00 | 1625·03 | ·00 | +·03 | +·04 |
| | 159 | 1738·72 | ·00 | 3095·82 | ·00 | +·02 | −·11 |
| | 160 | 1768·48 | ·00 | 1345·41 | ·00 | −·01 | −·02 |
| | 167 | 2581·94 | ·00 | 1875·93 | ·00 | +·03 | +·10 |
| | 173 | 2936·34 | ·00 | 3380·79 | ·00 | +·02 | −·07 |
| | Eros | 1464·70 | ·00 | 2453·78 | ·00 | ... | ... |
| January 14 | 153 | 557·79 | −·01 | 3385·89 | −·01 | −·08 | +·03 |
| 906 | 155 | 1243·95 | ·00 | 1631·57 | ·00 | −·05 | +·05 |
| | 159 | 1743·20 | ·00 | 3100·64 | ·00 | +·10 | −·16 |
| | 160 | 1770·65 | ·00 | 1350·84 | ·00 | −·03 | −·01 |
| | 167 | 2584·50 | ·00 | 1879·34 | ·00 | −·04 | +·02 |
| | 173 | 2940·64 | −·02 | 3382·54 | −·02 | +·10 | +·06 |
| | Eros | 2107·13 | ·00 | 2034·19 | ·00 | ... | ... |
| January 14 | 153 | 551·16 | −·01 | 3388·64 | −·01 | ·00 | −·04 |
| 907 | 155 | 1238·80 | −·01 | 1634·98 | −·01 | −·05 | +·02 |
| | 159 | 1736·85 | ·00 | 3104·02 | −·01 | −·01 | −·16 |
| | 160 | 1765·68 | −·01 | 1354·48 | −·01 | −·03 | +·09 |
| | 167 | 2579·00 | ·00 | 1883·31 | ·00 | −·06 | +·13 |
| | 173 | 2933·78 | −·03 | 3386·60 | −·03 | +·13 | −·02 |
| | Eros | 2139·33 | ·00 | 2013·17 | ·00 | ... | ... |
| January 15 | 167 | 165·21 | ·00 | 3435·15 | ·00 | +·17 | −·27 |
| 908 | 175 | 1085·31 | ·00 | 995·85 | ·00 | +·13 | +·03 |
| | 178 | 1468·76 | ·00 | 890·43 | ·00 | −·10 | +·23 |
| | 180 | 1731·37 | ·00 | 2975·70 | ·00 | −·01 | +·05 |
| | 189 | 3073·61 | ·00 | 2226·69 | ·00 | −·20 | −·01 |
| | 190 | 3263·62 | ·00 | 2656·31 | ·00 | −·01 | −·02 |
| | Eros | 1489·72 | ·00 | 2486·18 | ·00 | ... | ... |
| January 15 | 167 | 169·10 | ·00 | 3435·69 | ·00 | +·26 | −·32 |
| 909 | 175 | 1082·74 | ·00 | 993·88 | ·00 | +·01 | −·04 |
| | 178 | 1465·82 | ·00 | 887·36 | ·00 | −·11 | +·21 |
| | 180 | 1734·12 | ·00 | 2971·96 | ·00 | +·02 | +·01 |
| | 189 | 3074·31 | ·00 | 2219·14 | ·00 | −·19 | +·07 |
| | 190 | 3265·46 | ·00 | 2648·32 | ·00 | +·04 | +·07 |
| | Eros | 1521·91 | ·00 | 2463·24 | ·00 | ... | ... |
| January 15 | 167 | 167·54 | ·00 | 3435·38 | ·00 | +·37 | −·33 |
| 910 | 175 | 1087·18 | ·00 | 995·72 | ·00 | +·10 | +·05 |
| | 178 | 1470·51 | ·00 | 890·20 | ·00 | −·04 | +·23 |
| | 180 | 1733·82 | ·00 | 2975·43 | ·00 | −·01 | +·02 |
| | 189 | 3075·86 | ·00 | 2225·83 | ·00 | −·25 | +·12 |
| | 190 | 3266·16 | ·00 | 2655·56 | ·00 | −·20 | −·08 |
| | Eros | 1553·29 | ·00 | 2446·40 | ·00 | ... | ... |
| 1901. | | " | " | " | " | " | " |
| January 15 | 167 | 209·46 | −·01 | 3350·06 | −·01 | +·35 | −·20 |
| 912 | 175 | 1115·47 | −·02 | 905·64 | −·02 | +·07 | −·08 |
| | 178 | 1498·13 | −·01 | 797·66 | −·01 | −·07 | +·28 |
| | 180 | 1772·70 | ·00 | 2881·09 | ·00 | +·06 | −·14 |
| | 189 | 3110·36 | ·00 | 2123·40 | ·00 | −·27 | +·17 |
| | 190 | 3302·84 | −·01 | 2551·91 | −·01 | −·11 | −·02 |
| | Eros | 2072·24 | ·00 | 2036·71 | ·00 | ... | ... |
| January 15 | 167 | 203·03 | −·01 | 3342·85 | −·01 | +·37 | −·20 |
| 913 | 175 | 1104·05 | −·02 | 896·62 | −·01 | +·04 | +·02 |
| | 180 | 1765·41 | ·00 | 2870·48 | ·00 | −·09 | +·04 |
| | 189 | 3101·40 | ·00 | 2110·24 | ·00 | −·33 | +·14 |
| | Eros | 2097·20 | ·00 | 2003·54 | ·00 | ... | ... |
| January 15 | 167 | 207·93 | −·01 | 3344·31 | −·01 | +·40 | −·36 |
| 914 | 175 | 1104·28 | −·02 | 896·11 | −·02 | +·22 | +·19 |
| | 178 | 1486·48 | −·02 | 786·74 | −·02 | −·03 | +·35 |
| | 180 | 1769·27 | ·00 | 2868·81 | ·00 | −·06 | −·24 |
| | 189 | 3103·70 | ·00 | 2105·76 | ·00 | −·32 | −·05 |
| | 190 | 3297·86 | −·01 | 2533·06 | −·01 | −·21 | +·09 |
| | Eros | 2131·62 | ·00 | 1979·84 | ·00 | ... | ... |
| January 17 | 30° 464 | 942·73 | −·02 | 587·44 | −·02 | −·13 | −·09 |
| 915 | 30° 465 | 1091·18 | ·00 | 2509·98 | ·00 | −·01 | −·04 |
| | 192 | 1587·51 | −·01 | 3838·98 | −·01 | +·05 | +·07 |
| | 30° 469 | 2718·37 | ·00 | 2293·82 | ·00 | +·02 | +·14 |
| | 193 | 2794·51 | ·00 | 615·72 | ·00 | +·07 | −·10 |
| | Eros | 1978·63 | ·00 | 2121·22 | ·00 | ... | ... |
| January 18 | 193 | 252·82 | ·00 | 2145·87 | ·00 | +·03 | −·16 |
| 917 | 194 | 561·94 | ·00 | 3255·43 | ·00 | −·17 | +·10 |
| | 30° 474 | 1652·11 | ·00 | 579·86 | ·00 | −·01 | ·00 |
| | 195 | 1808·79 | ·00 | 3512·02 | ·00 | −·15 | +·04 |
| | 30° 477 | 1915·23 | ·00 | 2440·40 | ·00 | +·30 | +·29 |
| | 29° 508 | 2069·15 | ·00 | 452·62 | ·00 | −·30 | −·29 |
| | 30° 479 | 3370·34 | ·00 | 1960·85 | ·00 | +·41 | +·01 |
| | Eros | 1473·12 | ·00 | 2464·98 | ·00 | ... | ... |
| January 18 | 193 | 245·78 | ·00 | 2152·44 | ·00 | ·00 | −·01 |
| 918 | 194 | 554·04 | ·00 | 3262·36 | ·00 | −·12 | +·10 |
| | 30° 474 | 1646·07 | ·00 | 587·59 | ·00 | +·06 | −·05 |
| | 195 | 1800·78 | ·00 | 3519·86 | ·00 | −·17 | −·02 |
| | 30° 477 | 1908·11 | ·00 | 2448·35 | ·00 | +·13 | +·20 |
| | 29° 508 | 2063·23 | ·00 | 460·53 | ·00 | −·27 | −·23 |
| | 30° 479 | 3363·36 | ·00 | 1969·69 | ·00 | +·44 | +·02 |
| | Eros | 1513·53 | ·00 | 2443·42 | ·00 | ... | ... |

TABLE III.—Measured Co-ordinates and Residuals, Thompson 26-inch Refractor.

| Date and Plate No. | No. | x. | Refraction Correction applied. | y. | Refraction Correction applied. | Residuals. | |
|---|---|---|---|---|---|---|---|
| | | | | | | x. | y. |
| 1901. | | ″ | ″ | ″ | ″ | ″ | ″ |
| January 18 | 193 | 249·76 | ·00 | 2154·03 | ·00 | +·17 | −·09 |
| 919 | 194 | 560·56 | ·00 | 3263·41 | ·00 | −·16 | −·07 |
| | 30° 474 | 1647·05 | ·00 | 586·09 | ·00 | −·04 | +·02 |
| | 195 | 1807·67 | ·00 | 3518·16 | ·00 | −·04 | −·05 |
| | 30° 477 | 1913·12 | ·00 | 2446·36 | ·00 | −·10 | +·23 |
| | 29° 508 | 2063·88 | ·00 | 458·11 | ·00 | −·29 | −·11 |
| | 30° 479 | 3367·06 | ·00 | 1964·65 | ·00 | +·53 | +·06 |
| | Eros | 1581·74 | ·00 | 2403·46 | ·00 | ... | ... |
| January 18 | 193 | 258·30 | −·01 | 2148·74 | −·01 | −·19 | −·19 |
| 920 | 194 | 572·60 | ·00 | 3256·35 | ·00 | −·08 | +·14 |
| | 30° 474 | 1649·10 | −·01 | 575·34 | −·01 | +·04 | −·07 |
| | 195 | 1820·18 | ·00 | 3505·90 | −·01 | +·22 | +·17 |
| | 30° 477 | 1922·26 | ·00 | 2434·24 | ·00 | −·41 | +·08 |
| | 29° 508 | 2065·32 | −·01 | 445·71 | −·01 | −·17 | −·25 |
| | 30° 479 | 3373·59 | −·01 | 1946·40 | ·00 | +·72 | +·14 |
| | Eros | 2006·63 | ·00 | 2133·20 | ·00 | ... | ... |
| January 22 | 29° 534 | 444·42 | ·00 | 3913·35 | ·00 | −·06 | −·01 |
| 921 | 28° 507 | 1758·87 | ·00 | 1782·45 | ·00 | +·29 | −·04 |
| | 196 | 2990·83 | ·00 | 1143·56 | ·00 | ·00 | +·10 |
| | 197 | 3995·55 | ·00 | 2037·75 | ·00 | −·25 | −·09 |
| | Eros | 1737·85 | ·00 | 2353·48 | ·00 | ... | ... |
| January 22 | 29° 534 | 444·60 | ·00 | 3914·51 | ·00 | −·17 | +·08 |
| 922 | 28° 507 | 1754·15 | ·00 | 1780·85 | ·00 | +·35 | −·14 |
| | 196 | 2984·77 | ·00 | 1139·12 | ·00 | −·03 | +·08 |
| | 197 | 3991·34 | ·00 | 2031·03 | ·00 | −·16 | −·08 |
| | Eros | 1773·93 | ·00 | 2329·09 | ·00 | ... | ... |
| January 24 | 198 | 725·61 | −·01 | 2895·13 | ·00 | −·35 | +·25 |
| 925 | 199 | 1403·70 | ·00 | 1484·11 | ·00 | −·30 | −·01 |
| | 28° 517 | 1751·00 | ·00 | 3290·85 | ·00 | −·04 | −·20 |
| | 200 | 1838·63 | ·00 | 1149·01 | ·00 | +·11 | −·05 |
| | 201 | 3114·98 | −·01 | 3126·27 | −·01 | +·12 | +·05 |
| | 202 | 3138·70 | ·00 | 1613·02 | ·00 | +·35 | −·04 |
| | Eros | 2015·22 | ·00 | 2101·75 | ·00 | ... | ... |
| January 24 | 198 | 723·21 | −·01 | 2916·21 | ·00 | −·32 | +·17 |
| 926 | 199 | 1394·13 | −·01 | 1501·75 | −·01 | −·21 | +·03 |
| | 28° 517 | 1750·53 | ·00 | 3306·40 | −·01 | −·13 | −·16 |
| | 200 | 1827·64 | −·01 | 1164·56 | −·01 | −·10 | −·14 |
| | 201 | 3113·30 | −·02 | 3134·71 | −·02 | +·21 | +·09 |
| | 202 | 3129·38 | ·00 | 1621·52 | ·00 | +·45 | +·05 |
| | Eros | 2076·61 | ·00 | 2077·83 | ·00 | ... | ... |
| January 28 | 26° 572 | 1754·95 | ·00 | 1383·01 | ·00 | +·05 | +·05 |
| 927 | 26° 574 | 2045·98 | ·00 | 2255·12 | ·00 | −·54 | −·04 |
| | 26° 579 | 2659·44 | ·00 | 4028·82 | ·00 | +·27 | −·06 |
| | 203 | 3711·72 | ·00 | 1165·83 | ·00 | +·21 | +·03 |
| ... | Eros | 1396·77 | ·00 | 2437·44 | ·00 | ... | ... |
| 1901. | | ″ | ″ | ″ | ″ | ″ | ″ |
| January 29 | 25° 580 | 636·14 | ·00 | 688·30 | ·00 | −·05 | −·11 |
| 928 | 203 | 839·64 | ·00 | 2621·76 | ·00 | +·12 | +·15 |
| | 204 | 1802·60 | ·00 | 3251·35 | ·00 | +·23 | +·08 |
| | 25° 584 | 2509·21 | ·00 | 1147·45 | ·00 | −·08 | −·33 |
| | 26° 596 | 3102·34 | ·00 | 3866·06 | ·00 | −·20 | +·22 |
| | 205 | 3679·03 | ·00 | 1855·17 | ·00 | −·05 | ·00 |
| | Eros | 1664·61 | ·00 | 2307·41 | ·00 | ... | ... |
| January 29 | 25° 580 | 656·32 | −·03 | 668·95 | −·03 | −·15 | +·01 |
| 930 | 203 | 827·57 | −·01 | 2604·94 | ·00 | +·07 | +·12 |
| | 204 | 1779·56 | ·00 | 3249·52 | −·01 | +·19 | +·09 |
| | 25° 584 | 2520·58 | ·00 | 1157·82 | ·00 | +·12 | −·36 |
| | 26° 596 | 3068·49 | −·03 | 3885·11 | −·03 | −·28 | +·07 |
| | 205 | 3678·13 | −·01 | 1883·72 | −·01 | +·06 | +·10 |
| | Eros | 2053·43 | ·00 | 2099·27 | ·00 | ... | ... |
| February 1 | 24° 568 | 366·00 | ·00 | 2928·78 | ·00 | +·04 | +·17 |
| 931 | 24° 571 | 639·84 | ·00 | 1506·63 | ·00 | −·11 | −·38 |
| | 206 | 2058·37 | ·00 | 3871·63 | ·00 | +·09 | −·01 |
| | 207 | 2639·91 | ·00 | 810·13 | ·00 | +·05 | +·14 |
| | 208 | 3068·64 | ·00 | 3020·89 | ·00 | +·06 | +·06 |
| | 209 | 3668·08 | ·00 | 1915·78 | ·00 | −·13 | +·05 |
| | Eros | 1574·22 | ·00 | 2335·60 | ·00 | ... | ... |
| February 1 | 24° 568 | 362·91 | ·00 | 2917·80 | ·00 | +·05 | +·15 |
| 933 | 24° 571 | 639·80 | ·00 | 1496·26 | ·00 | −·27 | −·45 |
| | 206 | 2053·29 | ·00 | 3863·76 | ·00 | +·10 | +·08 |
| | 207 | 2641·05 | ·00 | 803·57 | ·00 | +·07 | +·12 |
| | 208 | 3065·32 | ·00 | 3015·00 | ·00 | +·02 | +·16 |
| | 209 | 3666·80 | ·00 | 1911·19 | ·00 | +·01 | −·01 |
| ... ... | Eros | 1736·17 | ·00 | 2243·22 | ·00 | ... | ... |
| February 3 | 23° 586 | 917·54 | −·04 | 266·60 | −·05 | +·43 | +·11 |
| 934 | 210 | 1020·99 | −·01 | 2176·37 | −·01 | −·53 | +·07 |
| | 211 | 1147·86 | −·01 | 3719·92 | −·01 | −·41 | +·28 |
| | 212 | 3053·37 | −·03 | 3369·63 | −·03 | +·24 | −·03 |
| | 213 | 3188·61 | −·01 | 2189·09 | −·01 | +·32 | −·22 |
| | 214 | 3214·22 | −·01 | 388·96 | −·01 | −·03 | −·19 |
| | Eros | 2071·00 | ·00 | 2057·89 | ·00 | ... | ... |
| February 3 | 23° 586 | 923·20 | −·05 | 266·83 | −·07 | +·38 | −·05 |
| 935 | 210 | 1027·25 | −·01 | 2175·93 | −·01 | −·35 | +·07 |
| | 211 | 1154·82 | −·01 | 3718·93 | −·02 | −·28 | +·36 |
| | 212 | 3060·06 | −·04 | 3367·02 | −·05 | +·14 | +·13 |
| | 213 | 3194·70 | −·01 | 2186·68 | −·01 | +·26 | −·07 |
| | 214 | 3219·59 | −·01 | 387·33 | −·02 | −·15 | −·44 |
| | Eros | 2126·19 | ·00 | 2032·43 | ·00 | ... | ... |

## TABLE III.—Measured Co-ordinates and Residuals, Thompson 26-inch Refractor.

| Date and Plate No. | No. | x. | Refraction Correction applied. | y. | Refraction Correction applied. | Residuals. |  |
|---|---|---|---|---|---|---|---|
|  |  |  |  |  |  | x. | y. |
| 1901. |  | " | " | " | " | " | " |
| February 5 | 215 | 1376·51 | ·00 | 2364·11 | ·00 | +·04 | −·01 |
| 936 | 216 | 1729·54 | ·00 | 1613·12 | ·00 | +·16 | +·15 |
|  | 23° 611 | 2268·57 | ·00 | 1968·33 | ·00 | −·06 | −·05 |
|  | 23° 613 | 2609·17 | −·01 | 3001·52 | −·01 | −·07 | −·13 |
|  | 22° 629 | 2743·22 | ·00 | 754·44 | −·01 | −·04 | ·00 |
|  | 23° 617 | 3736·79 | −·01 | 2011·52 | −·01 | −·02 | +·03 |
|  | Eros | 1979·27 | ·00 | 2037·73 | ·00 | ... | ... |
| February 5 | 215 | 1399·09 | ·00 | 2370·26 | ·00 | −·08 | +·06 |
| 937 | 216 | 1753·93 | ·00 | 1620·15 | ·00 | +·20 | +·26 |
|  | 23° 611 | 2291·93 | ·00 | 1976·82 | ·00 | −·01 | −·08 |
|  | 23° 613 | 2629·82 | −·01 | 3010·70 | −·01 | −·11 | −·10 |
|  | 22° 629 | 2769·80 | ·00 | 764·36 | −·01 | +·01 | −·19 |
|  | 23° 617 | 3759·93 | −·02 | 2023·65 | −·01 | +·01 | +·04 |
|  | Eros | 2053·60 | ·00 | 2020·66 | ·00 | ... | ... |
| February 6 | 217 | 324·12 | ·00 | 1069·66 | ·00 | −·40 | −·05 |
| 938 | 23° 617 | 574·12 | ·00 | 3502·66 | −·01 | −·17 | +·18 |
|  | 218 | 1722·70 | ·00 | 1426·13 | ·00 | −·01 | −·21 |
|  | 219 | 2035·72 | ·00 | 3090·13 | ·00 | −·16 | +·01 |
|  | 220 | 2930·26 | ·00 | 2721·74 | ·00 | +·34 | +·05 |
|  | 221 | 3687·03 | ·00 | 1086·71 | ·00 | +·42 | ·00 |
|  | Eros | 1260·31 | ·00 | 2395·39 | ·00 | ... | ... |
| February 6 | 217 | 319·92 | ·00 | 1069·70 | ·00 | −·31 | +·01 |
| 939 | 23° 617 | 562·33 | ·00 | 3503·53 | −·01 | +·02 | +·14 |
|  | 218 | 1717·36 | ·00 | 1430·50 | ·00 | +·12 | −·23 |
|  | 219 | 2025·47 | ·00 | 3095·45 | ·00 | −·25 | +·04 |
|  | 220 | 2921·28 | ·00 | 2729·74 | ·00 | +·10 | +·11 |
|  | 221 | 3682·94 | ·00 | 1097·14 | ·00 | +·30 | −·08 |
|  | Eros | 1304·16 | ·00 | 2373·42 | ·00 | ... | ... |
| February 6 | 217 | 334·84 | ·00 | 1069·58 | ·00 | −·09 | +·11 |
| 940 | 23° 617 | 583·59 | ·00 | 3503·01 | −·01 | +·19 | +·03 |
|  | 218 | 1733·64 | ·00 | 1426·87 | ·00 | −·12 | −·26 |
|  | 219 | 2045·96 | ·00 | 3090·96 | ·00 | −·39 | +·01 |
|  | 220 | 2940·77 | ·00 | 2722·93 | ·00 | ·00 | +·07 |
|  | 221 | 3697·98 | ·00 | 1088·25 | ·00 | +·41 | −·02 |
|  | Eros | 1418·60 | ·00 | 2325·06 | ·00 | ... | ... |
| February 11 | 223 | 792·50 | ·00 | 1835·70 | ·00 | −·01 | +·04 |
| 941 | 21° 644 | 2020·74 | ·00 | 3151·95 | ·00 | −·15 | −·03 |
|  | 224 | 2443·77 | ·00 | 1173·23 | ·00 | −·08 | +·05 |
|  | 21° 647 | 3433·85 | ·00 | 3701·46 | −·01 | +·12 | −·08 |
|  | 226 | 3817·54 | ·00 | 1633·84 | ·00 | +·13 | +·05 |
|  | Eros | 1862·03 | ·00 | 2192·07 | ·00 | ... | ... |
| 1901. |  | " | " | " | " | " | " |
| February 11 | 222 | 756·05 | ·00 | 2961·18 | ·00 | +·08 | +·16 |
| 942 | 223 | 789·99 | ·00 | 1832·33 | ·00 | +·09 | ·00 |
|  | 21° 644 | 2017·49 | ·00 | 3149·33 | ·00 | −·27 | −·02 |
|  | 224 | 2441·93 | ·00 | 1171·01 | ·00 | −·12 | −·08 |
|  | 21° 647 | 3430·21 | ·00 | 3699·80 | −·01 | +·02 | −·02 |
|  | 226 | 3815·31 | ·00 | 1632·54 | ·00 | +·17 | −·03 |
|  | Eros | 1909·17 |  | 2166·69 |  | ... | ... |
| February 11 | 223 | 774·92 | ·00 | 1853·74 | ·00 | −·01 | −·10 |
| 943 | 21° 644 | 2007·12 | ·00 | 3165·25 | ·00 | −·14 | −·02 |
|  | 224 | 2423·88 | ·00 | 1185·32 | ·00 | −·13 | +·01 |
|  | 21° 647 | 3421·67 | −·02 | 3709·40 | −·02 | +·20 | +·12 |
|  | 226 | 3798·87 | −·01 | 1640·93 | −·01 | +·08 | ·00 |
|  | Eros | 2323·84 | ·00 | 1984·15 | ·00 | ... | ... |
| February 11 | 222 | 746·88 | ·00 | 2978·99 | ·00 | +·01 | +·26 |
| 944 | 223 | 779·19 | −·01 | 1850·40 | −·01 | +·03 | +·01 |
|  | 21° 644 | 2007·80 | ·00 | 3164·20 | −·01 | −·05 | +·03 |
|  | 224 | 2429·50 | ·00 | 1185·75 | ·00 | −·11 | −·12 |
|  | 21° 647 | 3421·15 | −·03 | 3711·43 | −·03 | −·15 | −·11 |
|  | 226 | 3802·89 | −·01 | 1644·03 | −·01 | +·29 | −·05 |
|  | Eros | 2467·26 | ·00 | 1919·85 | ·00 | ... | ... |
| February 11 | 222 | 743·06 | −·01 | 2978·76 | −·01 | −·13 | −·03 |
| 945 | 223 | 776·69 | −·02 | 1850·32 | −·02 | +·08 | −·04 |
|  | 21° 644 | 2003·54 | −·01 | 3164·77 | −·01 | −·23 | +·12 |
|  | 224 | 2427·40 | ·00 | 1187·19 | ·00 | +·12 | −·03 |
|  | 226 | 3800·24 | −·02 | 1646·64 | −·01 | +·17 | −·02 |
|  | Eros | 2532·91 | ·00 | 1890·02 | ·00 | ... | ... |
| February 12 | 225 | 614·43 | ·00 | 2442·12 | ·00 | −·06 | −·04 |
| 946 | 226 | 635·91 | ·00 | 3032·20 | ·00 | −·05 | +·11 |
|  | 227 | 1218·65 | ·00 | 1813·79 | ·00 | +·11 | ·00 |
|  | 228 | 2251·34 | ·00 | 2880·90 | ·00 | −·02 | +·07 |
|  | 229 | 2323·23 | ·00 | 1275·94 | ·00 | +·03 | +·02 |
|  | 20° 772 | 3334·23 | ·00 | 2125·56 | ·00 | ·00 | −·17 |
|  | Eros | 1870·71 | ·00 | 2177·18 | ·00 | ... | ... |
| February 12 | 225 | 616·81 | ·00 | 2434·40 | ·00 | +·26 | −·09 |
| 947 | 226 | 637·16 | ·00 | 3024·60 | ·00 | −·09 | ·00 |
|  | 227 | 1223·00 | ·00 | 1807·58 | ·00 | +·06 | −·03 |
|  | 228 | 2252·93 | ·00 | 2877·31 | ·00 | −·03 | +·05 |
|  | 229 | 2329·09 | ·00 | 1272·45 | ·00 | −·16 | +·06 |
|  | 20° 772 | 3337·76 | ·00 | 2124·53 | ·00 | −·04 | ·00 |
|  | Eros | 1916·16 | ·00 | 2153·48 | ·00 |  |  |
| February 12 | 225 | 611·40 | ·00 | 2437·89 | ·00 | +·16 | −·10 |
| 948 | 226 | 632·38 | ·00 | 3028·06 | ·00 | −·03 | −·01 |
|  | 228 | 2248·03 | ·00 | 2878·57 | ·00 | −·06 | +·04 |
|  | 229 | 2321·91 | ·00 | 1273·57 | ·00 | −·07 | +·11 |
|  | 20° 772 | 3331·77 | ·00 | 2124·34 | ·00 | +·02 | −·03 |
|  | Eros | 1954·67 | ·00 | 2134·54 | ·00 |  |  |

TABLE III.—Measured Co-ordinates and Residuals, Thompson 26-inch Refractor.

| Date and Plate No. | No. | *x*. | Refraction Correction applied. | *y*. | Refraction Correction applied. | Residuals. | |
|---|---|---|---|---|---|---|---|
| | | | | | | *x*. | *y*. |
| 1901. | | ″ | ″ | ″ | ″ | ″ | ″ |
| February 13 | 230 | 776·05 | ·00 | 1138·85 | ·00 | +·19 | −·01 |
| 949 | 231 | 1400·88 | ·00 | 2643·15 | ·00 | −·12 | +·04 |
| | 232 | 2081·78 | ·00 | 2467·77 | ·00 | +·14 | +·10 |
| | 233 | 2334·20 | ·00 | 1835·20 | ·00 | −·22 | −·03 |
| | 19° 740 | 3273·71 | ·00 | 566·97 | ·00 | −·10 | −·06 |
| | 234 | 3290·69 | ·00 | 2386·50 | ·00 | +·12 | −·04 |
| | Eros | 1741·96 | ·00 | 2036·79 | ·00 | | |
| February 14 | 19° 740 | 429·55 | −·01 | 2009·84 | −·01 | −·41 | −·06 |
| 952 | 234 | 454·64 | −·01 | 3828·91 | −·01 | −·39 | −·01 |
| | 19° 745 | 1316·04 | −·01 | 313·05 | −·02 | +·15 | +·07 |
| | 237 | 3260·49 | −·01 | 3025·21 | −·01 | +·66 | −·01 |
| ... | Eros | 2337·13 | ·00 | 1985·58 | ·00 | | |
| February 17 | 18° 725 | 442·20 | ·00 | 2939·86 | ·00 | +·39 | −·12 |
| 954 | 18° 727 | 632·63 | −·01 | 824·70 | −·01 | +·04 | −·33 |
| | 19° 782 | 1111·89 | ·00 | 3798·95 | −·01 | +·08 | −·03 |
| | 18° 734 | 1948·65 | ·00 | 1662·83 | ·00 | −·18 | +·29 |
| | 18° 738 | 3308·87 | −·01 | 3369·60 | −·01 | +·14 | +·37 |
| | 240 | 3739·53 | ·00 | 268·41 | −·01 | −·42 | −·21 |
| | Eros | 2185·70 | ·00 | 2039·08 | ·00 | | |
| 1901. | | ″ | ″ | ″ | ″ | ″ | ″ |
| February 17 | 18° 725 | 434·81 | ·00 | 2947·04 | ·00 | +·25 | +·04 |
| 955 | 18° 727 | 626·65 | −·01 | 832·09 | −·01 | +·15 | −·22 |
| | 19° 782 | 1103·64 | ·00 | 3806·79 | −·01 | +·11 | −·11 |
| | 18° 734 | 1941·87 | ·00 | 1671·45 | ·00 | +·03 | +·08 |
| | 18° 738 | 3301·05 | −·01 | 3378·97 | −·01 | −·02 | +·33 |
| | 240 | 3734·02 | ·00 | 278·07 | −·01 | −·46 | −·13 |
| | Eros | 2222·55 | ·00 | 2028·58 | ·00 | | |
| February 20 | 241 | 733·99 | ·00 | 1439·36 | ·00 | +·08 | +·10 |
| 958 | 242 | 987·25 | ·00 | 3058·06 | ·00 | ·00 | −·12 |
| | 243 | 1994·57 | ·00 | 3795·87 | −·01 | −·10 | +·10 |
| | 244 | 2899·30 | ·00 | 1394·41 | ·00 | +·03 | −·07 |
| | Eros | 1903·26 | ·00 | 2127·26 | ·00 | | |
| February 20 | 241 | 855·74 | ·00 | 1426·67 | ·00 | +·14 | +·13 |
| 959 | 242 | 1107·52 | ·00 | 3045·64 | ·00 | −·01 | −·15 |
| | 243 | 2114·07 | ·00 | 3784·41 | −·01 | −·02 | ·00 |
| | 244 | 3021·29 | ·00 | 1383·64 | ·00 | −·13 | +·01 |
| | Eros | 2156·64 | ·00 | 2059·57 | ·00 | | |

## TABLE IV.—Plate Constants, Astrographic 13-inch Refractor.

| No. of Plate. | Assumed Co-ordinates of Centre. | | Scale. | | | | Orientation. | | | Corrections to Origin. | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Adopted. | | $a'$. | $e'$. | Adopted. | | $b'+d'$. | Adopted. | | Corrections to | |
| | R.A. | Dec. North. | $a$. | $e$. | | | $b$. | $d$. | | $c$. | $f$. | $c'$. | $f'$. |
| | h m s | ° ′ | | | | | | | | ″ | ″ | ″ | ″ |
| 5126 | 2 43 51 | 44 54 | −·00060 | −·00058 | −·00117 | −·00100 | −·00099 | +·00096 | +·00006 | + 12·25 | + 26·32 | − 0·02 | + 0·04 |
| 5129 | 2 44 40 | 45 12 | 43 | 46 | 124 | 100 | − 140 | + 107 | + 6 | + 22·04 | − 23·45 | + ·01 | + ·01 |
| 5130 | 2 44 40 | 45 12 | 50 | 53 | 111 | 104 | − 113 | + 95 | + 16 | + 28·54 | − 21·99 | − ·02 | + ·01 |
| 5131 | 2 43 55 | 45 17 | 58 | 58 | (128) | (116) | − 105 | + 100 | + 24 | + 16·26 | − 15·53 | + ·07 | − ·03 |
| 5133 | 2 43 55 | 45 17 | 67 | 61 | 114 | 104 | − 137 | + 130 | + 34 | + 16·26 | + 34·06 | + ·06 | − ·04 |
| 5134 | 2 43 53 | 45 37 | 55 | 56 | 106 | 93 | − 111 | + 104 | + 11 | + 13·55 | + 2·26 | − ·06 | + ·01 |
| 5138 | 2 43 55 | 46 0 | 28 | 23 | 104 | 90 | − 724 | + 652 | − 7 | + 11·68 | − 43·02 | + ·01 | − ·10 |
| 5139 | 2 43 55 | 46 0 | 38 | 40 | 106 | 82 | − 105 | + 60 | − 2 | − 11·53 | + 7·69 | − ·01 | − ·11 |
| 5141 | 2 43 46 | 46 21 | 41 | 45 | 96 | (69) | − 113 | + 77 | + 11 | + 18·32 | + 57·32 | − ·04 | + ·05 |
| 5142 | 2 42 51 | 47 1 | 52 | 55 | 108 | 99 | − 98 | + 84 | + 16 | − 6·67 | + 0·32 | + ·01 | ·00 |
| 5143 | 2 43 25 | 47 8 | 56 | 58 | 108 | 95 | − 130 | + 124 | + 16 | + 22·84 | − 69·37 | + ·02 | − ·01 |
| 5145 | 2 43 25 | 47 8 | 63 | 60 | 109 | 104 | − 581 | + 583 | + 19 | + 48·00 | − 16·64 | ·00 | ·00 |
| 5146 | 2 43 25 | 47 8 | 65 | 61 | 105 | 102 | − 685 | + 688 | + 12 | + 48·95 | + 18·45 | + ·03 | ·00 |
| 5148 | 2 43 9 | 47 28 | 39 | 42 | 109 | 104 | − 125 | + 83 | + 21 | + 37·57 | −154·88 | + ·01 | ·00 |
| 5150 | 2 43 9 | 47 28 | 65 | 61 | 106 | 97 | − 35 | + 38 | + 18 | + 12·16 | + 74·34 | + ·01 | ·00 |
| 5152 | 2 43 9 | 47 28 | 69 | 62 | 101 | 100 | − 75 | + 81 | + 12 | − 54·15 | + 33·90 | + ·01 | ·00 |
| 5154 | 2 42 25 | 48 8 | 36 | 37 | 109 | 95 | − 119 | + 69 | + 9 | + 19·68 | + 1·04 | − ·01 | + ·06 |
| 5160 | 2 39 30 | 49 32 | 68 | 62 | 105 | 95 | − 74 | + 80 | − 1 | + 1·11 | − 31·63 | + ·01 | + ·01 |
| 5161 | 2 39 30 | 49 32 | 69 | 62 | 103 | 95 | − 221 | + 228 | + 6 | − 12·73 | − 33·24 | + ·03 | + ·02 |
| 5162 | 2 39 15 | 49 53 | 40 | 44 | 101 | 93 | − 79 | + 38 | + 17 | + 11·02 | − 6·11 | − ·02 | − ·08 |
| 5169 | 2 34 5 | 51 22 | 69 | 62 | 96 | 95 | − 148 | + 155 | + 6 | − 16·61 | − 27·80 | + ·03 | + ·02 |
| 5170 | 2 34 5 | 51 22 | 70 | 63 | 89 | 87 | − 134 | + 140 | + 6 | − 5·30 | − 22·35 | + ·10 | + ·02 |
| 5172 | 2 34 5 | 51 22 | 51 | 57 | 93 | 94 | − 206 | + 232 | − 1 | + 84·82 | − 39·25 | + ·03 | + ·02 |
| 5173 | 2 32 55 | 51 38 | 38 | 41 | 89 | 90 | − 108 | + 62 | + 2 | + 43·67 | + 37·07 | + ·08 | − ·01 |
| 5174 | 2 32 55 | 51 38 | 42 | 48 | 90 | 92 | − 122 | + 89 | + 8 | + 40·29 | + 40·71 | + ·05 | − ·02 |
| 5177 | 2 32 55 | 51 38 | 69 | 62 | 92 | 92 | − 117 | + 124 | − 2 | − 27·08 | − 16·48 | − ·05 | ·00 |
| 5178 | 2 32 55 | 51 38 | 54 | 59 | 79 | 89 | − 143 | + 164 | − 6 | + 51·08 | − 22·93 | − ·05 | − ·04 |
| 5179 | 2 32 55 | 51 38 | 51 | 57 | 85 | 83 | − 156 | + 182 | − 8 | + 37·53 | − 23·76 | − ·08 | ·00 |
| 5183 | 2 25 43 | 52 50 | 44 | 50 | 93 | 93 | − 76 | + 44 | + 4 | + 8·13 | + 25·43 | + ·14 | + ·01 |
| 5184 | 2 25 43 | 52 50 | 51 | 57 | 100 | 93 | + 145 | − 163 | + 7 | − 8·77 | + 43·17 | + ·12 | + ·06 |
| 5185 | 2 25 43 | 52 50 | 55 | 60 | 99 | 95 | − 81 | + 71 | + 5 | + 5·31 | + 25·01 | + ·12 | + ·04 |
| 5186 | 2 25 43 | 52 50 | 71 | 64 | 101 | 92 | − 130 | + 136 | + 3 | + 10·23 | − 30·08 | + ·07 | + ·06 |
| 5187 | 2 25 43 | 52 50 | 71 | 64 | 97 | 92 | − 130 | + 136 | + 5 | + 15·30 | − 30·85 | + ·07 | + ·05 |
| 5189 | 2 25 43 | 52 50 | 51 | 58 | 102 | 97 | − 145 | + 175 | + 11 | + 5·64 | − 35·27 | + ·06 | + ·09 |
| 5190 | 2 25 43 | 52 50 | −·00047 | −·00053 | −·00095 | −·00095 | −·00150 | +·00190 | +·00006 | − 7·78 | − 36·74 | + 0·06 | + 0·06 |

*a.e.*—Adopted scale including effect of aberration and refraction.
*a′.e′.*—Scale, as determined from each photograph, corrected for aberration and refraction. Mean values adopted, $a' = \cdot 00102$, $e' = -\cdot 00095$.
*b.d.*—Adopted orientation including effect of refraction.
*b′.d′.*—Orientation, as determined from each photograph, corrected for refraction. Mean value adopted, $b' + d' = +\cdot 000066$.
*c.f.*—Corrections to the origin deduced from the finally adopted places of reference stars. The corrections to the centre are :—

$$c + 4200'' (a + b),$$
$$f + 4200'' (d + e).$$

*c′.f′.*—Corrections to the origin deduced from provisional places of reference stars, and the adopted values for *a*, *b*, *d* and *e*.

TABLE IV.—Plate Constants, Astrographic 13-inch Refractor.

| No. of Plate. | Assumed Co-ordinates of Centre. | | Scale. | | | | Orientation. | | | Corrections to Origin. | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Adopted. | | a′. | e′. | Adopted. | | b′ + d′. | Adopted. | | Corrections to | |
| | R.A. | Dec. North. | a. | e. | | | b. | d. | | c. | f. | c′. | f′. |
| | h m s | ° ′ | | | | | | | | ″ | ″ | ″ | ″ |
| 5191 | 2 24 5 | 53 2 | −·00049 | −·00055 | −·00101 | −·00092 | −·00088 | +·00066 | +·00002 | − 3·20 | + 37·98 | + 0·10 | + 0·06 |
| 5192 | 2 24 5 | 53 2 | 52 | 58 | 102 | 94 | − 177 | + 161 | + 6 | + 7·40 | + 33·52 | + ·09 | + ·05 |
| 5193 | 2 24 5 | 53 2 | 55 | 60 | 97 | 91 | − 262 | + 252 | + 9 | + 9·54 | + 33·67 | + ·11 | + ·12 |
| 5200 | 2 24 5 | 53 2 | 71 | 64 | 96 | 93 | − 6 | + 12 | + 4 | − 7·96 | − 14·37 | + ·11 | + ·09 |
| 5201 | 2 24 5 | 53 2 | 71 | 64 | 90 | 90 | − 73 | + 79 | + 5 | − 4·71 | − 13·86 | + ·10 | + ·09 |
| 5202 | 2 24 5 | 53 2 | 52 | 58 | 96 | 92 | − 134 | + 162 | + 3 | + 6·48 | − 12·29 | + ·08 | + ·08 |
| 5203 | 2 24 5 | 53 2 | 48 | 54 | 96 | 91 | − 114 | + 150 | + 2 | + 7·22 | − 12·36 | + ·09 | + ·08 |
| 5204 | 2 23 8 | 53 14 | 49 | 56 | 97 | 95 | − 144 | + 179 | 0 | + 16·01 | − 8·67 | + ·07 | + ·07 |
| 5205 | 2 20 34 | 53 25 | 48 | 54 | 98 | 98 | − 136 | + 111 | + 4 | + 9·24 | − 19·52 | + ·09 | + ·11 |
| 5206 | 2 20 34 | 53 25 | 52 | 58 | 99 | 99 | − 87 | + 70 | + 11 | − 1·21 | − 19·30 | + ·09 | + ·11 |
| 5207 | 2 16 50 | 53 42 | 50 | 57 | 102 | 84 | − 56 | + 90 | + 16 | + 7·28 | + 32·40 | + ·09 | ·00 |
| 5208 | 2 16 50 | 53 42 | 47 | 52 | 100 | 81 | − 108 | + 151 | + 10 | + 6·55 | + 28·30 | + ·13 | + ·03 |
| 5209 | 2 4 58 | 54 17 | 56 | 62 | 104 | 104 | − 53 | + 41 | + 5 | − 2·79 | + 20·04 | + ·01 | + ·06 |
| 5210 | 2 2 52 | 54 19 | 43 | 47 | 106 | 108 | − 130 | + 185 | + 5 | + 12·10 | − 10·37 | + ·07 | + ·02 |
| 5211 | 2 2 52 | 54 19 | 37 | 30 | 101 | 113 | − 100 | + 178 | + 13 | + 15·02 | − 10·82 | + ·07 | + ·02 |
| 5212 | 1 58 44 | 54 21 | 58 | 63 | 104 | 99 | − 102 | + 94 | + 12 | + 22·54 | + 7·61 | + ·05 | ·00 |
| 5213 | 1 58 44 | 54 21 | 65 | 66 | 106 | 96 | − 584 | + 586 | + 12 | + 35·94 | + 25·02 | + ·05 | + ·02 |
| 5214 | 1 58 44 | 54 21 | 74 | 67 | 105 | 101 | − 129 | + 136 | + 12 | + 12·00 | − 15·07 | + ·03 | + ·08 |
| 5215 | 1 58 44 | 54 21 | 63 | 65 | 100 | 101 | − 109 | + 123 | + 7 | + 17·18 | − 16·09 | + ·02 | + ·08 |
| 5216 | 1 58 44 | 54 21 | 43 | 45 | 104 | 96 | − 56 | + 114 | + 14 | + 0·08 | − 30·13 | + ·03 | + ·06 |
| 5217 | 1 58 44 | 54 21 | 39 | 35 | 99 | 101 | − 108 | + 180 | + 6 | + 4·82 | − 16·58 | + ·03 | + ·06 |
| 5218 | 1 56 42 | 54 20 | 57 | 63 | 102 | 96 | − 126 | + 117 | + 3 | + 35·80 | + 24·04 | + ·03 | − ·03 |
| 5219 | 1 56 42 | 54 20 | 60 | 65 | 103 | 92 | − 31 | + 26 | + 6 | − 46·39 | + 34·50 | + ·06 | − ·02 |
| 5220 | 1 56 42 | 54 20 | 63 | 65 | 102 | 97 | − 59 | + 58 | + 1 | + 15·10 | + 28·30 | + ·07 | − ·03 |
| 5222 | 1 56 42 | 54 20 | 74 | 67 | 111 | 105 | − 155 | + 161 | − 1 | + 25·46 | − 19·37 | ·00 | + ·06 |
| 5223 | 1 56 42 | 54 20 | 73 | 67 | 101 | 96 | − 128 | + 134 | − 2 | + 7·61 | − 16·42 | − ·02 | + ·04 |
| 5226 | 1 54 40 | 54 19 | 61 | 64 | 103 | 92 | − 346 | + 343 | + 12 | + 17·00 | − 13·57 | + ·06 | + ·03 |
| 5227 | 1 54 40 | 54 19 | 63 | 65 | 102 | 87 | − 62 | + 61 | + 9 | + 2·59 | − 10·15 | + ·08 | + ·03 |
| 5228 | 1 54 40 | 54 19 | 65 | 66 | 99 | 90 | − 78 | + 80 | + 10 | + 2·37 | − 11·53 | + ·08 | + ·06 |
| 5229 | 1 54 40 | 54 19 | 73 | 66 | 107 | 101 | − 94 | + 101 | + 7 | + 9·71 | − 65·87 | + ·05 | + ·04 |
| 5230 | 1 50 39 | 54 12 | 57 | 63 | 99 | 94 | − 101 | + 90 | + 4 | + 18·12 | + 10·21 | + ·04 | + ·02 |
| 5231 | 1 50 39 | 54 12 | 60 | 65 | 100 | 90 | − 89 | + 84 | + 7 | + 18·72 | + 11·06 | + ·06 | + ·02 |
| 5232 | 1 50 39 | 54 12 | 63 | 66 | 101 | 94 | − 134 | + 132 | + 13 | + 21·11 | + 10·30 | + ·04 | ·00 |
| 5234 | 1 50 39 | 54 12 | 48 | 53 | 99 | 94 | − 99 | + 144 | + 1 | + 12·12 | − 38·46 | + ·05 | + ·03 |
| 5235 | 1 50 39 | 54 12 | 40 | 36 | 100 | 95 | − 102 | + 174 | + 3 | + 11·77 | − 40·63 | + ·08 | + ·03 |
| 5236 | 1 50 39 | 54 12 | −·00037 | −·00022 | −·00102 | −·00097 | −·00159 | +·00248 | ·00000 | + 4·57 | − 45·35 | + 0·05 | + 0·04 |

*a.e.*—Adopted scale including effect of aberration and refraction.
*a′.e′.*—Scale, as determined from each photograph, corrected for aberration and refraction. Mean values adopted, $a' = -{\cdot}00102$, $e' = -{\cdot}00095$.
*b.d.*—Adopted orientation including effect of refraction.
*b′.d′.*—Orientation, as determined from each photograph, corrected for refraction. Mean value adopted, $b' + d' = +{\cdot}000066$.
*c.f.*—Corrections to the origin deduced from the finally adopted places of reference stars. The corrections to the centre are :—

$$c + 4200'' (a + b),$$
$$f + 4200'' (d + e).$$

*c′.f′.*—Corrections to the origin deduced from provisional places of reference stars and the adopted values for *a*, *b*, *d* and *e*.

## TABLE IV.—Plate Constants, Astrographic 13-inch Refractor.

| No. of Plate. | Assumed Co-ordinates of Centre. | | Scale. | | | | Orientation. | | | Corrections to Origin. | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Adopted. | | a′. | e′. | Adopted. | | b′ + d′. | Adopted. | | Corrections to | |
| | R.A. | Dec. North. | a. | e. | | | b. | d. | | c. | f. | c′. | f′. |
| | h m s | ° ′ | | | | | | | | ″ | ″ | ″ | ″ |
| 5237 | 1 48 44 | 54 6 | − ·00065 | − ·00066 | − ·00098 | − ·00094 | + ·00324 | − ·00311 | + ·00007 | − 25·30 | + 29·62 | + 0·03 | + 0·03 |
| 5238 | 1 48 44 | 54 6 | 62 | 65 | 98 | 93 | − 168 | + 184 | + 10 | − 8·16 | + 24·97 | + ·07 | + ·01 |
| 5239 | 1 46 48 | 54 1 | 62 | 66 | 99 | 99 | − 107 | + 103 | + 10 | + 26·63 | − 3·03 | + ·08 | − ·02 |
| 5240 | 1 46 48 | 54 1 | 64 | 67 | 112 | 99 | − 99 | + 98 | + 12 | + 24·73 | − 1·98 | ·00 | − ·01 |
| 5241 | 1 46 48 | 54 1 | 66 | 67 | 98 | 98 | − 104 | + 106 | + 6 | + 27·61 | − 2·39 | + ·08 | − ·02 |
| 5242 | 1 46 48 | 54 1 | 75 | 68 | 104 | 94 | − 404 | + 411 | + 11 | + 25·46 | − 68·34 | + ·08 | − ·02 |
| 5243 | 1 46 48 | 54 1 | 75 | 68 | 104 | 96 | − 133 | + 140 | + 10 | + 11·63 | − 45·74 | + ·08 | − ·02 |
| 5248 | 1 41 28 | 53 36 | 74 | 67 | 94 | 101 | − 138 | + 145 | + 9 | + 8·55 | + 31·82 | + ·09 | + ·08 |
| 5249 | 1 41 28 | 53 36 | 74 | 67 | 88 | 99 | − 113 | + 120 | + 8 | + 1·84 | + 36·13 | + ·08 | + ·08 |
| 5250 | 1 41 28 | 53 18 | 74 | 67 | 91 | 94 | − 85 | + 92 | + 7 | + 0·83 | + 35·76 | + ·10 | + ·07 |
| 5253 | 1 35 21 | 52 52 | 65 | 67 | 106 | 93 | − 568 | + 567 | + 5 | + 29·77 | − 12·84 | + ·06 | + ·07 |
| 5254 | 1 35. 21 | 52 52 | 68 | 68 | 103 | 86 | − 95 | + 106 | 0 | + 29·13 | − 8·64 | + ·06 | + ·07 |
| 5256 | 1 35 58 | 52 49 | 64 | 67 | 113 | 92 | − 102 | + 118 | + 7 | + 26·56 | + 4·81 | + ·06 | + ·07 |
| 5257 | 1 35 21 | 52 52 | 61 | 65 | 116 | 83 | − 179 | + 199 | + 2 | + 6·68 | − 44·92 | + ·06 | + ·07 |
| 5258 | 1 35 21 | 52 52 | 58 | 64 | 113 | 91 | − 116 | + 141 | + 6 | + 1·45 | − 42·47 | + ·06 | + ·07 |
| 5259 | 1 35 21 | 52 52 | 45 | 48 | 110 | 88 | − 116 | + 172 | + 12 | − 4·10 | − 45·54 | + ·06 | + ·07 |
| 5260 | 1 35 21 | 52 52 | 41 | 41 | 108 | 88 | − 163 | + 231 | + 2 | − 11·65 | − 49·13 | + ·06 | + ·07 |
| 5261 | 1 34 20 | 52 38 | 63 | 66 | 111 | 99 | − 92 | + 87 | + 6 | + 16·25 | − 29·62 | + ·03 | + ·04 |
| 5262 | 1 34 20 | 52 38 | 65 | 67 | 115 | 95 | − 88 | + 87 | + 19 | + 2·63 | − 29·21 | + ·03 | + ·04 |
| 5263 | 1 34 20 | 52 38 | 76 | 69 | 111 | 95 | − 146 | + 153 | + 2 | − 5·05 | − 59·42 | + ·03 | + ·04 |
| 5264 | 1 34 20 | 52 38 | 76 | 69 | 116 | 91 | − 149 | + 156 | + 1 | − 14·88 | − 58·80 | + ·03 | + ·04 |
| 5267 | 1 31 40 | 52 9 | 73 | 69 | 115 | 105 | − 112 | + 117 | + 23 | + 40·23 | − 12·15 | + ·08 | + ·09 |
| 5268 | 1 32 52 | 52 7 | 76 | 70 | 105 | 98 | − 151 | + 157 | + 19 | + 22·33 | − 4·21 | + ·04 | + ·09 |
| 5269 | 1 34 7 | 52 9 | 76 | 70 | 114 | 103 | − 84 | + 91 | + 26 | − 16·32 | + 29·38 | + ·04 | + ·09 |
| 5270 | 1 29 45 | 51 36 | 65 | 67 | 113 | 96 | − 725 | + 715 | + 12 | + 50·47 | + 0·19 | − ·02 | + ·07 |
| 5271 | 1 29 45 | 51 36 | 67 | 68 | 111 | 92 | − 62 | + 60 | + 1 | + 26·24 | − 0·71 | ·00 | + ·07 |
| 5272 | 1 29 45 | 51 36 | 69 | 69 | 100 | 88 | − 119 | + 120 | + 8 | − 27·00 | − 0·11 | − ·02 | + ·07 |
| 5273 | 1 29 45 | 51 36 | 76 | 70 | 110 | 91 | − 127 | + 133 | + 5 | + 4·20 | − 24·32 | − ·02 | + ·07 |
| 5274 | 1 29 45 | 51 36 | 77 | 70 | 115 | 93 | − 115 | + 122 | + 15 | + 7·76 | − 23·69 | − ·02 | + ·07 |
| 5275 | 1 28 14 | 51 0 | 77 | 70 | 125 | 106 | − 165 | + 172 | + 1 | + 16·56 | + 10·58 | − ·06 | + ·06 |
| 5276 | 1 26 34 | 48 38 | 62 | 66 | 94 | 94 | − 129 | + 154 | + 18 | + 0·40 | + 13·62 | − ·01 | + ·07 |
| 5277 | 1 26 34 | 48 38 | 47 | 51 | 102 | 98 | − 190 | + 247 | − 4 | − 6·43 | + 9·54 | − ·01 | + ·07 |
| 5278 | 1 26 34 | 48 38 | 43 | 43 | 103 | 96 | − 118 | + 188 | 0 | − 10·56 | + 13·19 | − ·01 | + ·07 |
| 5279 | 1 26 45 | 48 17 | 78 | 71 | 102 | 102 | − 196 | + 202 | − 8 | − 22·32 | − 152·27 | − ·03 | + ·07 |
| 5280 | 1 26 45 | 48 17 | 78 | 71 | 105 | 105 | + 647 | − 641 | 0 | − 25·21 | − 57·72 | − ·03 | + ·07 |
| 5283 | 1 26 45 | 48 17 | 54 | 59 | 106 | 101 | − 115 | + 155 | + 3 | + 11·14 | − 60·56 | − ·02 | + ·07 |
| 5285 | 1 27 29 | 47 31 | 71 | 70 | 100 | 95 | − 98 | + 98 | + 22 | + 18·84 | + 22·63 | − ·01 | + ·02 |
| 5286 | 1 27 29 | 47 31 | − ·00065 | − ·00067 | − ·00102 | − ·00093 | − ·00104 | + ·00126 | + ·00019 | + 5·32 | − 14·77 | − 0·01 | + 0·02 |

*a.e.*—Adopted scale including effect of aberration and refraction.

*a′.e′.*—Scale, as determined from each photograph, corrected for aberration and refraction. Mean values adopted, $a' = -·00102$, $e' = -·00095$.

*b.d.*—Adopted orientation including effect of refraction.

*b′.d′.*—Orientation, as determined from each photograph, corrected for refraction. Mean value adopted, $b' + d' = +·000066$.

*c.f.*—Corrections to the origin deduced from the finally adopted places of reference stars. The corrections to the centre are :—

$$c + 4200''\,(a + b),$$
$$f + 4200''\,(d + e).$$

*c′.f′.*—Corrections to the origin deduced from provisional places of reference stars and the adopted values for *a*, *b*, *d* and *e*.

## TABLE IV.—Plate Constants, Astrographic 13-inch Refractor.

| No. of Plate. | Assumed Co-ordinates of Centre. | | Scale. | | | | Orientation. | | | Corrections to Origin. | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Adopted. | | $a'$. | $e'$. | Adopted. | | $b' + d'$. | Adopted. | | Corrections to | |
| | R.A. | Dec. North. | $a$. | $e$. | | | $b$. | $d$. | | $c$. | $f$. | $c'$. | $f'$. |
| | h m s | ° ′ | | | | | | | | ″ | ″ | ″ | ″ |
| 5287 | 1 28 50 | 46 45 | −·00078 | −·00071 | −·00101 | −·00096 | −·00123 | +·00129 | −·00010 | + 53·26 | − 3·62 | + 0·08 | + 0·07 |
| 5288 | 1 30 15 | 45 56 | 78 | 72 | 110 | 97 | − 124 | + 129 | 0 | + 0·63 | + 6·01 | − ·01 | + ·10 |
| 5289 | 1 30 15 | 45 56 | 79 | 72 | 109 | 94 | − 86 | + 92 | + 3 | − 4·98 | + 5·75 | − ·01 | + ·10 |
| 5290 | 1 30 15 | 45 56 | 79 | 72 | 109 | 92 | − 118 | + 125 | + 4 | − 3·81 | + 3·22 | − ·01 | + ·10 |
| 5294 | 1 30 15 | 45 56 | 58 | 62 | 111 | 91 | − 454 | + 489 | − 15 | − 0·69 | − 25·53 | − ·01 | + ·10 |
| 5297 | 1 30 15 | 45 56 | 40 | 40 | 104 | 98 | − 493 | + 570 | − 1 | − 2·88 | − 32·41 | − ·01 | + ·10 |
| 5299 | 1 32 16 | 45 8 | 74 | 71 | 104 | 94 | − 83 | + 83 | + 14 | + 9·51 | − 13·55 | − ·07 | + ·08 |
| 5300 | 1 32 16 | 45 8 | 78 | 72 | 94 | 89 | − 202 | + 207 | + 14 | + 12·03 | − 13·09 | − ·07 | + ·08 |
| 5304 | 1 32 16 | 45 8 | 63 | 66 | 94 | 93 | − 100 | + 126 | + 21 | − 7·80 | − 61·12 | − ·07 | + ·08 |
| 5306 | 1 32 16 | 45 8 | 48 | 51 | 95 | 90 | − 86 | + 144 | + 9 | − 4·02 | − 59·96 | − ·07 | + ·08 |
| 5307 | 1 32 16 | 45 8 | 41 | 40 | 90 | 95 | − 615 | + 692 | + 11 | + 11·81 | −105·19 | − ·07 | + ·08 |
| 5308 | 1 33 25 | 44 43 | 74 | 71 | 105 | 96 | − 69 | + 71 | + 13 | − 2·69 | − 1·83 | − ·09 | + ·05 |
| 5309 | 1 34 36 | 44 19 | 74 | 70 | 105 | 94 | − 136 | + 136 | + 4 | + 42·97 | − 53·27 | + ·04 | + ·11 |
| 5310 | 1 34 36 | 44 19 | 76 | 71 | 103 | 91 | − 44 | + 47 | − 4 | + 34·74 | − 48·71 | ·00 | + ·10 |
| 5313 | 1 34 36 | 44 19 | 79 | 72 | 119 | 99 | − 257 | + 263 | 0 | + 20·37 | − 86·72 | − ·09 | + ·09 |
| 5314 | 1 37 25 | 43 28 | 77 | 72 | 101 | 94 | − 155 | + 158 | − 7 | + 39·38 | − 8·06 | − ·04 | + ·06 |
| 5315 | 1 37 25 | 43 28 | 78 | 72 | 102 | 91 | − 85 | + 88 | − 2 | + 27·00 | − 6·22 | + ·02 | + ·01 |
| 5318 | 1 37 25 | 43 28 | 80 | 72 | 107 | 89 | − 28 | + 34 | + 5 | − 2·33 | − 58·49 | + ·01 | + ·04 |
| 5319 | 1 37 25 | 43 28 | 80 | 72 | 112 | 95 | − 650 | + 656 | + 12 | + 15·65 | − 99·35 | ·00 | + ·04 |
| 5322 | 1 37 25 | 43 28 | 62 | 64 | 112 | 88 | − 172 | + 204 | + 3 | + 16·50 | − 45·71 | − ·04 | + ·05 |
| 5324 | 1 37 25 | 43 28 | 44 | 45 | 115 | 99 | − 944 | + 1013 | + 7 | + 53·44 | −122·28 | − ·03 | + ·02 |
| 5326 | 1 38 56 | 43 1 | 38 | 34 | 112 | 86 | − 1020 | + 1110 | − 6 | + 53·32 | − 17·34 | ·00 | + ·07 |
| 5327 | 1 42 22 | 42 34 | 60 | 62 | 88 | 94 | − 127 | + 163 | + 6 | + 32·77 | − 9·01 | + ·02 | + ·12 |
| 5328 | 1 42 22 | 42 34 | 54 | 57 | 83 | 95 | − 161 | + 209 | − 1 | + 31·45 | − 9·99 | ·00 | + ·11 |
| 5329 | 1 42 22 | 42 34 | 44 | 44 | 89 | 93 | − 109 | + 181 | − 4 | + 30·28 | − 13·20 | + ·01 | + ·09 |
| 5330 | 1 46 0 | 41 20 | 75 | 71 | 104 | 101 | − 118 | + 132 | + 6 | + 0·03 | − 11·98 | − ·12 | + ·07 |
| 5331 | 1 49 57 | 40 28 | 76 | 71 | 107 | 96 | − 126 | + 140 | + 8 | + 1·48 | + 0·64 | + ·02 | + ·04 |
| 5333 | 1 54 19 | 39 37 | 80 | 73 | ... | ... | − 134 | + 144 | + 9 | + 5·00 | − 23·88 | − ·08 | + ·12 |
| 5334 | 1 54 19 | 39 37 | 78 | 72 | ... | ... | − 163 | + 174 | − 1 | + 8·80 | − 27·35 | − ·01 | + ·04 |
| 5335 | 1 54 19 | 39 37 | 54 | 55 | ... | ... | − 152 | + 205 | − 6 | + 2·89 | − 37·70 | − ·01 | + ·04 |
| 5336 | 1 54 19 | 39 37 | 43 | 41 | ... | ... | − 83 | + 160 | − 2 | + 9·98 | − 34·11 | ·00 | + ·05 |
| 5337 | 1 55 53 | 39 7 | 80 | 73 | 101 | 89 | − 410 | + 418 | + 12 | + 37·76 | − 22·77 | + ·02 | + ·02 |
| 5338 | 1 57 6 | 39 4 | 80 | 72 | 103 | 99 | − 720 | + 730 | + 15 | + 50·74 | − 18·74 | + ·02 | + ·05 |
| 5339 | 2 6 27 | 37 27 | 55 | 56 | 92 | 99 | − 222 | + 271 | + 15 | + 19·93 | + 13·19 | + ·08 | ·00 |
| 5341 | 2 11 48 | 36 37 | −·00078 | −·00070 | −·00107 | −·00090 | −·00075 | +·00076 | +·00005 | − 4·42 | − 9·54 | − 0·01 | − 0·05 |

*a.e.*—Adopted scale including effect of aberration and refraction.
*a′.e′.*—Scale, as determined from each photograph, corrected for aberration and refraction. Mean values adopted, $a' = -{\cdot}00102$, $e' = -{\cdot}00095$.
*b.d.*—Adopted orientation including effect of refraction.
*b′.d′.*—Orientation, as determined from each photograph, corrected for refraction. Mean value adopted, $b' + d' = +{\cdot}000066$.
*c.f.*—Corrections to the origin deduced from the finally adopted places of reference stars. The corrections to the centre are :—

$$c + 4200''\,(a + b),$$
$$f + 4200''\,(d + e).$$

*c′.f′.*—Corrections to the origin deduced from provisional places of reference stars and the adopted values for *a*, *b*, *d* and *e*.

## TABLE IV.—Plate Constants Astrographic 13-inch Refractor.

| No. of Plate. | Assumed Co-ordinates of Centre. | | Scale. | | | | Orientation. | | | Corrections to Origin. | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Adopted. | | $a'$. | $e'$. | Adopted. | | $b' + d'$. | Adopted. | | Corrections to | |
| | R.A. | Dec. North. | $a$. | $e$. | | | $b$. | $d$. | | $c$. | $f$. | $c'$. | $f'$. |
| | h m s | ° ′ | | | | | | | | ″ | ″ | ″ | ″ |
| 5342 | 2 11 48 | 36 37 | −·00079 | −·00071 | −·00115 | −·00088 | −·00041 | +·00044 | +·00006 | − 10·88 | − 8·20 | − 0·01 | − 0·05 |
| 5343 | 2 11 48 | 36 37 | 80 | 71 | 114 | 96 | − 65 | + 70 | + 6 | − 16·39 | − 9·96 | − ·08 | − ·03 |
| 5344 | 2 14 29 | 36 10 | 80 | 71 | 89 | 90 | − 162 | + 171 | + 7 | + 21·16 | + 29·03 | − ·06 | + ·05 |
| 5345 | 2 14 29 | 36 10 | 79 | 71 | 97 | 112 | − 164 | + 175 | + 12 | + 17·39 | + 24·86 | − ·03 | + ·01 |
| 5346 | 2 14 29 | 36 10 | 56 | 56 | 97 | 107 | − 132 | + 180 | + 5 | + 20·61 | + 20·27 | − ·03 | + ·03 |
| 5347 | 2 14 29 | 36 10 | 42 | 40 | 104 | 101 | − 120 | + 200 | − 12 | + 22·67 | + 21·83 | − ·01 | + ·07 |
| 5348 | 2 14 29 | 36 10 | 36 | 32 | 92 | 87 | − 98 | + 190 | − 11 | + 12·66 | + 25·79 | − ·08 | + ·11 |
| 5349 | 2 23 1 | 34 53 | 80 | 71 | 90 | 95 | − 665 | + 668 | + 14 | + 38·74 | + 24·49 | + ·01 | ·00 |
| 5350 | 2 23 1 | 34 53 | 48 | 46 | 89 | 99 | − 56 | + 124 | + 10 | + 1·00 | + 10·90 | − ·01 | − ·01 |
| 5351 | 2 23 1 | 34 53 | 39 | 36 | 91 | 98 | − 71 | + 157 | + 9 | + 2·68 | − 1·43 | − ·01 | − ·01 |
| 5352 | 2 23 1 | 34 53 | 29 | 21 | 90 | 98 | − 133 | + 245 | + 11 | − 0·82 | − 8·13 | − ·01 | − ·01 |
| 5353 | 2 25 55 | 34 27 | 80 | 71 | 114 | 104 | − 88 | + 89 | + 9 | + 14·98 | + 74·67 | − ·03 | − ·05 |
| 5354 | 2 25 55 | 34 27 | 81 | 72 | 117 | 101 | − 593 | + 602 | + 4 | + 44·12 | + 5·39 | + ·02 | − ·05 |
| 5355 | 2 25 55 | 34 27 | 81 | 72 | 115 | 96 | − 293 | + 303 | + 9 | + 13·94 | − 29·93 | + ·02 | − ·05 |
| 5356 | 2 25 55 | 34 27 | 41 | 37 | 112 | 96 | + 56 | + 30 | + 1 | + 2·49 | + 33·38 | − ·03 | − ·05 |
| 5359 | 2 38 11 | 32 45 | 45 | 41 | 99 | 93 | − 138 | + 214 | + 2 | + 31·50 | − 5·84 | − 0·15 | + 0·03 |
| 5365 | 2 41 25 | 32 20 | 50 | 46 | 114 | 104 | − 85 | + 151 | + 7 | − 4·55 | − 30·71 | − ·07 | + ·06 |
| 5366 | 2 41 25 | 32 20 | 41 | 36 | 111 | 97 | − 87 | + 172 | − 1 | − 3·73 | − 34·09 | + ·02 | + ·04 |
| 5367 | 2 41 25 | 32 20 | 29 | 20 | 106 | 94 | − 70 | + 183 | + 2 | − 7·84 | − 34·58 | + ·01 | + ·04 |
| 5368 | 2 44 35 | 31 54 | 80 | 70 | 98 | 92 | − 94 | + 96 | − 3 | + 33·53 | + 26·78 | + ·02 | + ·03 |
| 5369 | 2 44 35 | 31 54 | 81 | 71 | 96 | 92 | − 93 | + 97 | − 4 | + 27·13 | + 26·60 | + ·02 | + ·03 |
| 5371 | 2 44 35 | 31 54 | 46 | 41 | 91 | 92 | − 98 | + 173 | − 7 | + 0·78 | − 19·85 | + ·02 | + ·03 |
| 5372 | 2 44 35 | 31 54 | 38 | 32 | 91 | 84 | − 40 | + 132 | + 13 | − 4·80 | − 7·40 | + ·02 | + ·03 |
| 5379 | 2 51 6 | 31 3 | 51 | 47 | 85 | 91 | − 291 | + 357 | + 19 | + 40·66 | − 12·42 | − ·15 | + ·03 |
| 5387 | 3 11 31 | 28 32 | 64 | 57 | 97 | 95 | − 111 | + 153 | + 24 | + 40·09 | + 12·16 | − ·16 | ·00 |
| 5390 | 3 15 43 | 28 4 | 41 | 32 | 101 | 100 | − 774 | + 866 | + 18 | + 26·76 | − 7·10 | − ·06 | − ·04 |
| 5393 | 3 32 57 | 26 4 | 44 | 34 | 94 | 89 | − 131 | + 219 | + 3 | + 34·92 | − 23·60 | − ·27 | + ·02 |
| 5394 | 3 43 55 | 24 51 | 82 | 68 | 94 | 90 | − 104 | + 115 | + 23 | + 2·61 | − 23·58 | − ·05 | − ·01 |
| 5397 | 3 51 16 | 24 2 | 45 | 32 | 116 | 98 | − 845 | + 932 | + 17 | + 47·03 | − 58·54 | − ·07 | − ·02 |
| 5398 | 3 51 16 | 24 2 | 35 | 20 | 94 | 92 | − 70 | + 179 | + 18 | + 32·69 | − 9·46 | − ·08 | − ·02 |
| 5404 | 3 58 40 | 23 13 | 42 | 28 | 96 | 88 | − 82 | + 176 | + 1 | + 11·29 | + 74·79 | − ·14 | + ·05 |
| 5407 | 4 2 30 | 22 51 | −·00081 | −·00066 | −·00107 | −·00094 | −·01065 | +·01079 | ·00000 | − 18·14 | + 2·40 | + 0·01 | − 0·02 |

*a.e.*—Adopted scale including effect of aberration and refraction.
*a′.e′.*—Scale, as determined from each photograph, corrected for aberration and refraction. Mean values adopted, $a' = -·00102$, $e' = -·00095$.
*b.d.*—Adopted orientation including effect of refraction.
*b′.d′.*—Orientation, as determined from each photograph, corrected for refraction. Mean value adopted, $b' + d' = +·000066$.
*c.f.*—Corrections to the origin deduced from the finally adopted places of reference stars. The corrections to the centre are :—

$$c + 4200'' (a + b),$$
$$f + 4200'' (d + e).$$

*c′f′*—Corrections to the origin deduced from provisional places of reference stars and the adopted values for *a*, *b*, *d* and *e*.

TABLE IV.—Plate Constants, Astrographic 13-inch Refractor.

| No. of Plate. | Assumed Co-ordinates of Centre. | | Scale. | | | | Orientation. | | | Corrections to Origin. | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Adopted. | | $a'$. | $e'$. | Adopted. | | $b' + d'$. | Adopted. | | Corrections to | |
| | R.A. | Dec. North. | $a$. | $e$. | | | $b$. | $d$. | | $c$. | $f$. | $c'$. | $f'$. |
| | h m s | ° ′ | | | | | | | | ″ | ″ | ″ | ″ |
| 5408 | 4 20 31 | 20 57 | −·00082 | −·00065 | −·00104 | −·00088 | −·00181 | +·00186 | +·00008 | + 82·30 | + 0·08 | 0·00 | − 0·02 |
| 5409 | 4 20 31 | 20 57 | 82 | 65 | 99 | 92 | − 89 | + 97 | − 4 | + 73·69 | − 4·38 | ·00 | − ·02 |
| 5412 | 4 20 31 | 20 57 | 52 | 37 | 107 | 103 | − 1225 | + 1299 | + 10 | +110·71 | −165·32 | ·00 | − ·02 |
| 5413 | 4 20 31 | 20 57 | 35 | 16 | 102 | 88 | − 30 | + 142 | + 1 | + 55·61 | − 74·80 | ·00 | − ·02 |
| 5414 | 4 24 18 | 20 33 | 82 | 65 | 101 | 86 | − 97 | + 100 | 0 | + 30·29 | + 16·99 | + ·03 | + ·05 |
| 5415 | 4 24 18 | 20 33 | 82 | 65 | 93 | 91 | − 113 | + 118 | − 10 | − 21·63 | + 50·33 | − ·02 | ·00 |
| 5416 | 4 24 18 | 20 33 | 82 | 65 | 105 | 89 | − 742 | + 749 | + 4 | + 64·02 | + 34·74 | + ·08 | + ·02 |
| 5420 | 4 28 5 | 20 10 | 82 | 64 | 106 | 90 | − 89 | + 93 | + 5 | − 3·92 | + 51·63 | + ·03 | + ·04 |
| 5421 | 4 28 5 | 20 10 | 79 | 62 | 115 | 92 | − 156 | + 174 | + 6 | − 2·55 | − 0·30 | + ·10 | + ·05 |
| 5422 | 4 28 5 | 20 10 | 78 | 60 | 106 | 87 | − 114 | + 136 | 0 | − 1·69 | + 1·92 | + ·05 | + ·05 |
| 5426 | 4 28 5 | 20 10 | 50 | 32 | 108 | 90 | − 81 | + 161 | + 9 | − 11·70 | + 0·23 | + ·07 | + ·01 |
| 5427 | 4 28 5 | 20 10 | 40 | 21 | 106 | 81 | − 72 | + 174 | + 6 | + 70·75 | − 1·66 | + ·06 | + ·02 |
| 5428 | 4 31 48 | 19 47 | 61 | 44 | (78) | 90 | − 101 | + 158 | − 14 | + 19·96 | − 4·57 | + ·11 | − ·01 |
| 5429 | 4 35 33 | 19 26 | 81 | 63 | 89 | 91 | − 82 | + 87 | + 10 | + 17·77 | − 48·03 | + ·07 | + ·04 |
| 5430 | 4 35 33 | 19 26 | 82 | 63 | 99 | 94 | − 489 | + 496 | + 2 | + 34·89 | − 48·98 | − ·03 | ·00 |
| 5431 | 4 35 33 | 19 26 | 81 | 62 | 102 | 101 | − 786 | + 797 | + 3 | + 40·34 | − 50·91 | − ·05 | − ·04 |
| 5434 | 4 43 2 | 18 40 | 72 | 54 | 99 | 101 | − 74 | + 111 | + (54) | + 22·94 | − 54·53 | + ·06 | − ·17 |
| 5436 | 4 54 7 | 17 33 | 82 | 62 | 84 | 91 | − 67 | + 77 | + 14 | − 21·16 | − 32·86 | + ·04 | + ·09 |
| 5438 | 4 54 7 | 17 33 | 79 | 59 | 84 | 94 | − 67 | + 87 | + 14 | − 29·68 | − 29·66 | + ·04 | + ·08 |
| 5441 | 4 54 7 | 17 33 | 70 | 51 | 82 | 93 | − 601 | + 642 | + 12 | − 10·31 | −134·22 | − ·01 | + ·03 |
| 5452 | 5 12 54 | 15 45 | −·00055 | −·00032 | −·00096 | −·00093 | −·00096 | +·00174 | +·00019 | + 14·06 | + 35·67 | + 0·02 | − 0·01 |

*a.e.*—Adopted scale including effect of aberration and refraction.

*a′.e′.*—Scale, as determined from each photograph, corrected for aberration and refraction. Mean values adopted, $a' = -·00102$, $e' = -·00095$.

*b.d.*—Adopted orientation including effect of refraction.

*b′.d′.*—Orientation, as determined from each photograph, corrected for refraction. Mean value adopted, $b' + d' = +·000066$.

*c.f.*—Corrections to the origin deduced from the finally adopted places of reference stars. The corrections to the centre are :—

$$c + 4200'' (a + b),$$
$$f + 4200'' (d + e).$$

*c′.f′.*—Corrections to the origin deduced from provisional places of reference stars and the adopted values for *a*, *b*, *d* and *e*.

## TABLE V.—Plate Constants, Thompson 26-inch Refractor.

| No. of Plate. | Assumed Co-ordinates of Centre. | | Scale. | | | | Orientation. | | | Corrections to Origin. | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Adopted. | | $a'$. | $e'$. | Adopted. | | $b' + d'$. | Adopted. | |
| | R.A. | Dec. North. | $a$. | $e$. | | | $b$. | $d$. | | $c$. | $f$. |
| | h m s | ° ′ | | | | | | | | ″ | ″ |
| 744 | 2 44 49 | 44 52 | + ·00691 | + ·00699 | + ·00610 | + ·00614 | − ·00018 | − ·00077 | + ·00003 | + 8·85 | + 44·89 |
| 745 | 2 43 51 | 44 54 | 651 | 650 | 618 | 620 | + 526 | − 530 | + 20 | − 136·82 | + 42·26 |
| 746 | 2 43 51 | 44 54 | 646 | 648 | 622 | 628 | + 428 | − 428 | + 20 | − 50·31 | − 9·42 |
| 747 | 2 43 55 | 45 17 | 684 | 685 | 607 | 623 | + 492 | − 568 | − 2 | − 186·91 | − 174·18 |
| 748 | 2 43 53 | 45 37 | 680 | 676 | 606 | 617 | + 558 | − 618 | − 18 | − 3·51 | − 6·08 |
| 749 | 2 43 53 | 45 37 | 665 | 658 | 612 | 620 | + 372 | − 398 | − 16 | − 1·60 | + 115·42 |
| 751 | 2 43 55 | 46 0 | 677 | 674 | 621 | 624 | − 123 | + 65 | + 10 | − 86·90 | − 83·93 |
| 752 | 2 43 55 | 46 0 | 674 | 668 | 613 | 622 | + 666 | − 734 | + 6 | − 108·30 | − 81·08 |
| 753 | 2 43 55 | 46 0 | 645 | 647 | 623 | 621 | + 516 | − 514 | + 26 | − 117·97 | + 227·41 |
| 754 | 2 43 46 | 46 21 | 691 | 703 | 624 | 606 | + 460 | − 560 | + 8 | − 74·56 | − 40·26 |
| 755 | 2 43 46 | 46 21 | 667 | 660 | 614 | 608 | + 427 | − 459 | + 6 | − 92·32 | + 70·95 |
| 756 | 2 43 25 | 47 8 | 666 | 659 | 611 | 626 | + 481 | − 511 | + 8 | − 74·45 | − 130·29 |
| 757 | 2 43 25 | 47 8 | 644 | 647 | 615 | 624 | + 442 | − 440 | − 2 | − 91·49 | + 42·43 |
| 759 | 2 43 9 | 47 28 | 683 | 686 | 608 | 613 | + 514 | − 590 | + 2 | − 8·44 | − 146·62 |
| 760 | 2 43 9 | 47 28 | 679 | 676 | 597 | 606 | + 489 | − 549 | − 2 | − 8·47 | − 147·05 |
| 761 | 2 43 9 | 47 28 | 645 | 647 | 610 | 606 | + 464 | − 462 | − 8 | − 46·42 | + 124·24 |
| 762 | 2 42 47 | 47 45 | 688 | 700 | 606 | 609 | + 451 | − 547 | + 4 | − 35·59 | − 14·87 |
| 763 | 2 42 25 | 48 8 | 687 | 696 | 614 | 605 | + 464 | − 554 | + 14 | − 30·98 | − 45·88 |
| 764 | 2 42 25 | 48 8 | 682 | 683 | 620 | (643) | + 475 | − 547 | + 20 | − 29·18 | − 44·69 |
| 766 | 2 40 37 | 49 13 | 643 | 647 | 608 | 606 | + 328 | − 324 | + 8 | + 3·61 | − 22·44 |
| 770 | 2 39 30 | 49 32 | 644 | 647 | 602 | 617 | + 275 | − 273 | + 16 | + 199·96 | − 54·02 |
| 771 | 2 39 30 | 49 32 | 643 | 647 | 613 | 612 | + 369 | − 365 | + 8 | + 180·75 | − 49·94 |
| 778 | 2 34 5 | 51 22 | 643 | 646 | 599 | 612 | + 468 | − 464 | − 20 | − 43·19 | − 44·71 |
| 782 | 2 32 55 | 51 38 | 668 | 658 | 610 | 608 | + 518 | − 550 | − 8 | − 84·49 | + 26·46 |
| 783 | 2 32 55 | 51 38 | 664 | 654 | 609 | 610 | + 480 | − 504 | 0 | − 82·67 | + 27·78 |
| 787 | 2 25 43 | 52 50 | 663 | 654 | 606 | 611 | + 435 | − 461 | + 8 | − 21·60 | + 13·03 |
| 788 | 2 25 43 | 52 50 | 660 | 651 | 611 | 612 | + 422 | − 442 | + 2 | − 24·05 | + 11·49 |
| 789 | 2 25 43 | 52 50 | 657 | 649 | 610 | 613 | + 360 | − 378 | − 2 | − 24·01 | + 15·06 |
| 790 | 2 25 43 | 52 50 | 641 | 645 | 608 | 616 | − 140 | + 142 | + 6 | − 16·33 | + 10·30 |
| 791 | 2 25 43 | 52 50 | 641 | 645 | 609 | 621 | − 15 | + 19 | + 4 | − 33·59 | − 42·62 |
| 792 | 2 25 43 | 52 50 | 660 | 651 | 602 | 612 | − 394 | + 420 | + 2 | − 59·19 | − 119·28 |
| 793 | 2 25 43 | 52 50 | 663 | 654 | 606 | 616 | − 141 | + 173 | + 4 | − 62·54 | − 107·44 |
| 794 | 2 24 5 | 53 2 | 657 | 649 | 613 | 608 | + 566 | − 580 | − 4 | − 173·16 | − 29·84 |
| 795 | 2 24 5 | 53 2 | 654 | 647 | 613 | 613 | + 406 | − 414 | − 4 | + 186·95 | − 39·97 |
| 796 | 2 24 5 | 53 2 | + ·00640 | + ·00644 | + ·00616 | + ·00616 | + ·00326 | − ·00322 | + ·00002 | + 188·14 | − 41·35 |

*a.e.*—Adopted scale including effect of aberration and refraction.
*a′.e′.*—Scale, as determined from each photograph, corrected for aberration and refraction. Mean values adopted, $a' = +{\cdot}00610$, $e' = +{\cdot}00614$.
*b.d.*—Adopted orientation including effect of refraction.
*b′.d′.*—Orientation, as determined from each photograph, corrected for refraction. Mean value adopted, $b' + d' = +{\cdot}000034$.
*c.f.*—Corrections to the origin deduced from the finally adopted places of comparison stars. The corrections to the centre are :—

$$c + 2100'' (a + b),$$
$$f + 2100'' (d + e).$$

### TABLE V.—Plate Constants, Thompson 26-inch Refractor.

| No. of Plate. | Assumed Co-ordinates of Centre. |  | Scale. |  |  |  | Orientation. |  |  | Corrections to Origin. |  |
|---|---|---|---|---|---|---|---|---|---|---|---|
|  |  |  | Adopted. |  | a′. | e′. | Adopted. |  | b′ + d′. | Adopted. |  |
|  | R.A. | Dec. North. | a. | e. |  |  | b. | d. |  | c. | f. |
|  | h m s | ° ′ |  |  |  |  |  |  |  | ″ | ″ |
| 797 | 2 24 5 | 53 2 | + ·00640 | + ·00644 | + ·00625 | + ·00615 | + ·00125 | − ·00121 | − ·00006 | − 81·08 | − 78·28 |
| 798 | 2 24 5 | 53 2 | 661 | 651 | 616 | 613 | + 89 | − 63 | − 4 | − 63·36 | − 77·93 |
| 799 | 2 24 5 | 53 2 | 664 | 654 | 607 | 611 | + 54 | − 20 | − 6 | − 73·30 | − 80·63 |
| 800 | 2 23 8 | 53 14 | 661 | 652 | 605 | 607 | + 65 | − 35 | 0 | − 146·28 | + 572·82 |
| 801 | 2 20 34 | 53 25 | 664 | 655 | 598 | 621 | + 496 | − 526 | + 12 | − 29·11 | − 31·98 |
| 802 | 2 20 34 | 53 25 | 661 | 652 | 607 | 615 | + 533 | − 557 | − 2 | − 29·27 | − 22·50 |
| 803 | 2 20 34 | 53 25 | 659 | 650 | 609 | 613 | + 109 | − 127 | − 2 | − 18·75 | − 34·29 |
| 804 | 2 4 58 | 54 17 | 657 | 647 | 604 | 617 | + 412 | − 430 | − 2 | − 31·60 | + 21·44 |
| 806 | 2 1 46 | 54 3 | 640 | 642 | 603 | 624 | + 105 | − 101 | 0 | − 13·88 | + 6·54 |
| 807 | 2 1 46 | 54 3 | 641 | 642 | 607 | 615 | − 20 | + 24 | − 8 | − 9·29 | − 0·24 |
| 811 | 1 56 42 | 54 20 | 668 | 661 | 619 | 616 | + 30 | + 22 | + 6 | − 21·10 | − 19·11 |
| 812 | 1 56 42 | 54 20 | 671 | 669 | 617 | 613 | + 84 | − 22 | + 12 | − 18·56 | − 13·35 |
| 817 | 1 50 39 | 54 12 | 653 | 645 | 599 | 613 | + 442 | − 454 | 0 | − 9·07 | + 0·17 |
| 818 | 1 50 39 | 54 12 | 651 | 643 | 597 | 620 | + 414 | − 422 | + 8 | − 10·30 | + 0·79 |
| 819 | 1 50 39 | 54 12 | 662 | 652 | 590 | 608 | − 355 | + 391 | 0 | + 12·97 | − 71·92 |
| 820 | 1 50 39 | 54 12 | 670 | 667 | 593 | 621 | − 266 | + 328 | + 2 | + 12·59 | − 68·36 |
| 821 | 1 48 44 | 54 6 | 632 | 641 | 609 | 613 | + 35 | − 31 | 0 | − 46·90 | + 13·08 |
| 822 | 1 46 48 | 54 1 | 649 | 642 | 611 | 615 | + 512 | − 518 | + 2 | − 86·99 | + 11·50 |
| 823 | 1 46 48 | 54 1 | 646 | 642 | 614 | 611 | + 476 | − 480 | − 6 | − 59·39 | + 0·22 |
| 844 | 1 29 45 | 51 36 | 646 | 641 | 607 | 603 | + 101 | − 107 | + 2 | − 24·75 | + 9·72 |
| 845 | 1 29 45 | 51 36 | 645 | 641 | 601 | 596 | + 407 | − 411 | − 4 | − 30·18 | + 13·59 |
| 846 | 1 29 45 | 51 36 | 635 | 639 | 607 | 608 | + 437 | − 433 | 0 | − 32·00 | + 15·28 |
| 847 | 1 29 45 | 51 36 | 637 | 639 | 604 | 606 | − 89 | + 85 | − 2 | − 19·45 | + 34·00 |
| 848 | 1 26 34 | 48 38 | 651 | 644 | 602 | 617 | − 357 | + 381 | + 2 | + 1·07 | − 84·93 |
| 849 | 1 26 34 | 48 38 | 666 | 660 | 606 | 618 | + 123 | − 65 | + 4 | − 5·40 | − 76·31 |
| 850 | 1 26 34 | 48 38 | 676 | 683 | 600 | 618 | + 34 | + 58 | + 4 | − 8·78 | − 78·19 |
| 851 | 1 26 45 | 48 17 | 634 | 638 | 607 | 609 | + 384 | − 380 | + 6 | − 17·41 | + 69·39 |
| 852 | 1 26 45 | 48 17 | 634 | 638 | 600 | 609 | + 99 | − 95 | + 6 | − 6·88 | − 139·39 |
| 853 | 1 26 45 | 48 17 | 668 | 663 | 605 | 609 | + 45 | + 17 | + 6 | − 10·95 | − 28·46 |
| 854 | 1 26 45 | 48 17 | 678 | 685 | 609 | 615 | + 71 | + 23 | + 2 | − 22·04 | − 30·44 |
| 855 | 1 27 57 | 47 7 | 637 | 638 | 607 | 605 | + 913 | − 913 | + 8 | − 16·55 | + 63·36 |
| 856 | 1 27 57 | 47 7 | 636 | 638 | 607 | 612 | + 329 | − 329 | − 2 | + 5·50 | + 43·08 |
| 858 | 1 30 15 | 45 56 | 634 | 637 | 609 | 618 | + 443 | − 441 | − 6 | − 32·41 | + 6·82 |
| 859 | 1 30 15 | 45 56 | 633 | 637 | 603 | 615 | + 311 | − 309 | − 12 | − 29·44 | + 5·27 |
| 860 | 1 30 15 | 45 56 | 633 | 637 | 604 | 618 | + 418 | − 416 | − 8 | − 28·68 | + 9·59 |
| 861 | 1 30 15 | 45 56 | + ·00665 | + ·00659 | + ·00610 | + ·00623 | + ·00131 | − ·00073 | + ·00006 | − 31·45 | + 16·41 |

*a.e.*—Adopted scale including effect of aberration and refraction.
*a′.e′.*—Scale, as determined from each photograph, corrected for aberration and refraction. Mean values adopted, $a' = +{\cdot}00610$, $e' = +{\cdot}00614$.
*b.d.*—Adopted orientation including effect of refraction.
*b′.d′.*—Orientation, as determined from each photograph, corrected for refraction. Mean value adopted, $b' + d' = +{\cdot}000034$.
*c.f.*—Corrections to the origin deduced from the finally adopted places of comparison stars. The corrections to the centre are :—

$$c + 2100''\,(a + b),$$
$$f + 2100''\,(d + e).$$

## TABLE V.—Plate Constants, Thompson 26-inch Refractor.

| No. of Plate. | Assumed Co-ordinates of Centre. | | Scale. | | | | Orientation. | | | Corrections to Origin. | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Adopted. | | $a'$. | $e'$. | Adopted. | | $b' + d'$. | Adopted. | |
| | R.A. | Dec. North. | $a$. | $e$. | | | $b$. | $d$. | | $c$. | $f$. |
| | h m s | ° ′ | | | | | | | | ″ | ″ |
| 863 | 1 32 16 | 45 8 | + ·00637 | + ·00637 | + ·00594 | + ·00604 | + ·001224 | − ·001225 | + ·00002 | − 46·94 | + 193·03 |
| 864 | 1 32 16 | 45 8 | 635 | 637 | 601 | 610 | + 395 | − 395 | + 6 | − 25·11 | + 153·11 |
| 865 | 1 32 16 | 45 8 | 634 | 637 | 599 | 606 | + 434 | − 432 | + 4 | − 27·47 | + 153·81 |
| 866 | 1 32 16 | 45 8 | 646 | 642 | 606 | 611 | + 26 | − 6 | + 12 | − 50·14 | − 21·83 |
| 867 | 1 32 16 | 45 8 | 669 | 665 | 605 | 615 | + 141 | − 73 | + 10 | − 53·67 | − 32·94 |
| 868 | 1 32 16 | 45 8 | 675 | 676 | 609 | 608 | + 47 | + 39 | + 18 | − 50·45 | − 31·55 |
| 869 | 1 34 36 | 44 19 | 637 | 638 | 610 | 612 | − 82 | + 80 | + 10 | − 42·99 | + 28·19 |
| 870 | 1 34 36 | 44 19 | 636 | 637 | 607 | 614 | + 101 | − 101 | + 12 | − 26·03 | − 46·90 |
| 871 | 1 34 36 | 44 19 | 635 | 637 | 604 | 611 | − 7 | + 7 | + 10 | − 56·12 | + 22·09 |
| 872 | 1 37 25 | 43 28 | 637 | 638 | 617 | 632 | + 316 | − 320 | + 14 | − 10·29 | − 37·60 |
| 873 | 1 37 25 | 43 28 | 636 | 637 | 612 | 627 | + 325 | − 327 | + 10 | − 7·48 | − 40·44 |
| 874 | 1 37 25 | 43 28 | 635 | 637 | 610 | 620 | + 423 | − 423 | + 12 | − 8·46 | − 37·78 |
| 875 | 1 37 25 | 43 28 | 651 | 646 | 606 | 615 | − 402 | + 432 | + 10 | − 32·04 | + 53·79 |
| 876 | 1 37 25 | 43 28 | 658 | 652 | 607 | 616 | − 414 | + 460 | 0 | − 29·90 | + 51·56 |
| 877 | 1 37 25 | 43 28 | 681 | 688 | 609 | 619 | − 17 | + 131 | + 8 | − 40·82 | + 56·41 |
| 878 | 1 40 34 | 42 37 | 637 | 638 | 619 | 613 | + 364 | − 368 | + 8 | − 9·11 | − 23·08 |
| 879 | 1 40 34 | 42 37 | 636 | 637 | 614 | 612 | + 160 | − 162 | + 2 | − 2·10 | − 20·06 |
| 880 | 1 40 34 | 42 37 | 647 | 643 | 618 | 612 | − 46 | + 70 | + 10 | − 22·20 | + 58·86 |
| 881 | 1 40 34 | 42 37 | 655 | 649 | 611 | 609 | − 20 | + 58 | + 2 | − 29·94 | + 59·82 |
| 882 | 1 40 34 | 42 37 | 665 | 660 | 610 | 615 | + 2 | + 58 | + 6 | − 29·72 | + 57·91 |
| 883 | 1 49 57 | 40 28 | 631 | 636 | 616 | 617 | + 49 | − 47 | + 20 | − 13·08 | + 58·90 |
| 884 | 1 49 57 | 40 28 | 631 | 636 | 617 | 616 | − 134 | + 138 | + 16 | − 12·58 | + 47·01 |
| 885 | 1 54 19 | 39 37 | 633 | 636 | 611 | 605 | + 414 | − 406 | 0 | − 5·64 | − 20·10 |
| 886 | 1 54 19 | 39 37 | 654 | 650 | 606 | 601 | − 133 | + 173 | + 6 | − 27·42 | + 70·43 |
| 887 | 1 56 39 | 39 12 | 631 | 636 | 609 | 613 | + 99 | − 93 | + 2 | − 27·75 | − 33·05 |
| 889 | 2 6 27 | 37 27 | 663 | 660 | 612 | 615 | + 50 | + 10 | − 6 | − 28·03 | + 62·64 |
| 890 | 2 6 27 | 37 27 | 671 | 670 | 609 | 616 | + 48 | + 30 | 0 | − 13·05 | + 69·07 |
| 891 | 2 11 48 | 36 37 | 632 | 638 | 611 | 615 | − 1 | + 1 | − 6 | + 200·86 | − 152·04 |
| 892 | 2 11 48 | 36 37 | 631 | 637 | 620 | 612 | + 79 | − 77 | − 8 | − 29·22 | − 6·53 |
| 894 | 2 14 29 | 36 10 | 633 | 638 | 611 | 612 | + 33 | − 25 | − 6 | − 0·66 | + 46·27 |
| 895 | 2 14 29 | 36 10 | 634 | 638 | 606 | 604 | + 42 | − 32 | − 10 | + 4·79 | + 45·28 |
| 896 | 2 14 29 | 36 10 | 654 | 651 | 615 | 615 | + 37 | + 5 | − 4 | − 2·35 | + 46·18 |
| 897 | 2 14 29 | 36 10 | 677 | 678 | 606 | 616 | + 48 | + 44 | − 2 | + 21·95 | + 39·98 |
| 898 | 2 14 29 | 36 10 | 692 | 703 | 608 | 612 | + 66 | + 66 | − 6 | − 19·50 | + 39·66 |
| 899 | 2 25 55 | 34 27 | 632 | 637 | 610 | 608 | + 103 | − 103 | + 6 | − 19·10 | + 66·80 |
| 900 | 2 25 55 | 34 27 | 632 | 636 | 612 | 614 | + 25 | − 23 | + 10 | − 32·22 | + 52·18 |
| 901 | 2 25 55 | 34 27 | + ·00630 | + ·00636 | + ·00615 | + ·00608 | − ·00148 | + ·00150 | − ·00006 | − 53·07 | + 4·00 |

*a.e.*—Adopted scale including effect of aberration and refraction.
*a′.e′.*—Scale, as determined from each photograph, corrected for aberration and refraction. Mean values adopted, $a' = +{\cdot}00610$, $e' = +{\cdot}00614$.
*b.d.*—Adopted orientation including effect of refraction.
*b′.d′.*—Orientation, as determined from each photograph, corrected for refraction. Mean value adopted, $b' + d' = +{\cdot}000034$.
*c.f.*—Corrections to the origin deduced from the finally adopted places of comparison stars. The corrections to the centre are :—

$$c + 2100''\,(a + b),$$
$$f + 2100''\,(d + e).$$

TABLE V.—Plate Constants, Thompson 26-inch Refractor.

| No. of Plate. | Assumed Co-ordinates of Centre. | | Scale. | | | | Orientation. | | | Corrections to Origin. | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Adopted. | | | | Adopted. | | | Adopted. | |
| | R.A. | Dec. North. | *a.* | *e.* | *a′.* | *e′.* | *b.* | *d.* | *b′* + *d′.* | *c.* | *f.* |
| | h m s | ° ′ | | | | | | | | ″ | ″ |
| 904 | 2 41 25 | 32 20 | + ·00632 | + ·00639 | + ·00619 | + ·00599 | + ·00203 | − ·00205 | + ·00002 | − 30·53 | − 0·82 |
| 905 | 2 41 25 | 32 20 | 631 | 638 | 614 | 610 | + 155 | − 155 | + 2 | − 29·31 | − 1·43 |
| 906 | 2 41 25 | 32 20 | 678 | 681 | 616 | 611 | + 19 | + 79 | + 10 | − 30·49 | − 11·64 |
| 907 | 2 41 25 | 32 20 | 690 | 700 | 612 | 605 | + 104 | + 24 | + 12 | − 26·86 | − 14·68 |
| 908 | 2 44 35 | 31 54 | 631 | 638 | 603 | 604 | + 512 | − 512 | + 12 | − 21·96 | − 7·95 |
| 909 | 2 44 35 | 31 54 | 630 | 638 | 601 | 602 | + 237 | − 237 | + 18 | − 16·52 | − 8·90 |
| 910 | 2 44 35 | 31 54 | 630 | 638 | 592 | 599 | + 483 | − 481 | + 16 | − 23·52 | − 8·15 |
| 912 | 2 44 35 | 31 54 | 657 | 658 | 596 | 604 | − 69 | + 123 | + 16 | − 46·81 | + 75·83 |
| 913 | 2 44 35 | 31 54 | 664 | 665 | 587 | 609 | − 266 | + 334 | + 16 | − 33·82 | + 82·43 |
| 914 | 2 44 35 | 31 54 | 671 | 674 | 587 | 591 | − 461 | + 545 | + 12 | − 32·27 | + 80·38 |
| 915 | 2 51 6 | 31 3 | 653 | 654 | 617 | 617 | + 58 | − 10 | + 12 | + 32·94 | + 25·06 |
| 917 | 2 54 29 | 30 38 | 630 | 638 | 622 | 625 | + 351 | − 351 | + 14 | − 35·64 | − 9·84 |
| 918 | 2 54 29 | 30 38 | 630 | 638 | 621 | 621 | + 422 | − 420 | + 8 | − 30·07 | − 16·44 |
| 919 | 2 54 29 | 30 38 | 630 | 638 | 620 | 615 | + 211 | − 209 | + 16 | − 29·70 | − 18·48 |
| 920 | 2 54 29 | 30 38 | 654 | 656 | 631 | 627 | − 155 | + 205 | + 20 | − 30·13 | − 14·50 |
| 921 | 3 8 2 | 28 57 | 631 | 640 | 594 | 607 | + 458 | − 448 | − 26 | − 33·14 | − 18·22 |
| 922 | 3 8 2 | 28 57 | 633 | 640 | 593 | 616 | + 235 | − 223 | − 24 | − 24·50 | − 20·44 |
| 925 | 3 14 54 | 28 8 | 654 | 658 | 634 | 618 | + 8 | + 46 | 0 | + 113·08 | − 15·42 |
| 926 | 3 14 54 | 28 8 | 666 | 671 | 639 | 617 | − 492 | + 572 | + 6 | + 129·95 | − 40·73 |
| 927 | 3 29 23 | 26 28 | 629 | 640 | 620 | 613 | + 469 | − 469 | + 6 | − 20·01 | + 19·22 |
| 928 | 3 32 57 | 26 4 | 631 | 641 | 601 | 627 | − 894 | + 906 | + 4 | + 19·04 | − 32·43 |
| 930 | 3 32 57 | 26 4 | 667 | 674 | 610 | 619 | + 779 | − 695 | − 4 | − 12·77 | − 2·97 |
| 931 | 3 43 55 | 24 51 | 630 | 641 | 611 | 618 | − 303 | + 311 | + 16 | + 2·61 | − 27·37 |
| 933 | 3 43 55 | 24 51 | 634 | 644 | 613 | 623 | − 98 | + 118 | + 18 | − 0·33 | − 15·68 |
| 934 | 3 51 16 | 24 2 | 677 | 689 | 628 | 623 | − 90 | + 198 | − 12 | + 4·82 | + 40·30 |
| 935 | 3 51 16 | 24 2 | 695 | 712 | 620 | 636 | − 134 | + 282 | − 4 | − 0·88 | + 39·39 |
| 936 | 3 58 40 | 23 13 | 655 | 665 | 602 | 609 | − 316 | + 378 | 0 | − 6·25 | + 175·22 |
| 937 | 3 58 40 | 23 13 | 665 | 675 | 611 | 620 | − 46 | + 128 | − 4 | − 35·37 | + 172·15 |
| 938 | 4 2 30 | 22 51 | 629 | 642 | 633 | 623 | + 3 | − 3 | 0 | + 1·01 | + 8·60 |
| 939 | 4 2 30 | 22 51 | 629 | 642 | 622 | 622 | + 312 | − 310 | − 6 | + 1·85 | + 9·48 |
| 940 | 4 2 30 | 22 51 | 631 | 641 | 616 | 617 | + 52 | − 46 | − 8 | − 10·63 | + 8·66 |
| 941 | 4 20 31 | 20 57 | 631 | 646 | 617 | 610 | − 51 | + 51 | + 4 | − 46·32 | − 16·53 |
| 942 | 4 20 31 | 20 57 | 629 | 644 | 611 | 615 | + 24 | − 20 | − 4 | − 45·25 | − 12·41 |
| 943 | 4 20 31 | 20 57 | 646 | 658 | 617 | 618 | − 369 | + 413 | + 12 | − 22·84 | − 37·55 |
| 944 | 4 20 31 | 20 57 | 667 | 681 | 611 | 617 | − 118 | + 206 | − 6 | − 31·99 | − 33·15 |
| 945 | 4 20 31 | 20 57 | + ·00687 | + ·00706 | + ·00618 | + ·00625 | + ·00017 | + ·00115 | + ·00016 | − 32·19 | − 32·76 |

*a.e.*—Adopted scale including effect of aberration and refraction.
*a′ e′.*—Scale, as determined from each photograph, corrected for aberration and refraction. Mean values adopted, $a' = +\cdot 00610$, $e' = +\cdot 00614$.
*b.d.*—Adopted orientation including effect of refraction.
*b′.d′.*—Orientation, as determined from each photograph, corrected for refraction. Mean value adopted, $b' + d' = +\cdot 000034$.
*c.f.*—Corrections to the origin deduced from the finally adopted places of comparison stars. The corrections to the centre are:—

$$c + 2100''\,(a + b),$$
$$f + 2100''\,(d + e).$$

### TABLE V.—Plate Constants, Thompson 26-inch Refractor.

| No. of Plate. | Assumed Co-ordinates of Centre. | | Scale. | | | | Orientation. | | | Corrections to Origin. | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Adopted. | | $a'$. | $e'$. | Adopted. | | $b' + d'$. | Adopted. | |
| | R.A. | Dec. North. | $a$. | $e$. | | | $b$. | $d$. | | $c$. | $f$. |
| | h m s | ° ′ | | | | | | | | ″ | ″ |
| 946 | 4 24 18 | 20 33 | + ·00629 | + ·00644 | + ·00609 | + ·00617 | − ·00313 | + ·00317 | − ·00004 | − 18·50 | + 15·43 |
| 947 | 4 24 18 | 20 33 | 630 | 644 | 603 | 614 | − 56 | + 62 | + 2 | − 27·52 | + 24·80 |
| 948 | 4 24 18 | 20 33 | 630 | 644 | 605 | 607 | − 191 | + 199 | 0 | − 18·67 | + 20·47 |
| 949 | 4 28 5 | 20 10 | 633 | 647 | 608 | 619 | − 74 | + 90 | + 2 | + 259·65 | + 76·02 |
| 952 | 4 31 48 | 19 47 | 654 | 668 | (647) | 609 | + 44 | + 18 | + 2 | − 27·33 | + 6·93 |
| 954 | 4 43 2 | 18 40 | 639 | 655 | 599 | 624 | + 16 | + 16 | + 24 | − 20·42 | − 20·45 |
| 955 | 4 43 2 | 18 40 | 643 | 658 | 596 | 620 | + 95 | − 55 | + 18 | − 15·20 | − 27·59 |
| 958 | 4 54 7 | 17 33 | 630 | 647 | 609 | 613 | − 391 | + 399 | − 2 | + 110·44 | + 45·21 |
| 959 | 4 54 7 | 17 33 | + ·00632 | + ·00649 | + ·00599 | + 00·609 | − ·00294 | + ·00308 | − ·00004 | − 13·60 | + 58·19 |

*a.e.*—Adopted scale including effect of aberration and refraction.
*a′.e′.*—Scale, as determined from each photograph, corrected for aberration and refraction. Mean values adopted, $a' = +{\cdot}00610$, $e' = +{\cdot}00614$.
*b.d.*—Adopted orientation including effect of refraction.
*b′.d′.*—Orientation, as determined from each photograph, corrected for refraction. Mean value adopted, $b' + d' = +{\cdot}000034$.
*c.f.*—Corrections to the origin deduced from the finally adopted places of comparison stars. The corrections to the centre are :—

$$c + 2100''(a + b),$$
$$f + 2100''(d + e).$$

### TABLE VI.—Residuals from Photographs and Deduced Places of Reference Stars.

| Plate No. and Date. | R.A. 1900·0. | Dec. N. 1900·0. |
|---|---|---|
| **+ 49° 399.** | | |
| Provisional…… | $1^{\mathrm{h}}\ 24^{\mathrm{m}}\ 0^{\mathrm{s}}{\cdot}47$ | 49° 25′ 30″·8 |
| 1900. | | |
| 5276 Dec. 6 | −″·16 | ″·00 |
| 5277 ,, | −·03 | −·06 |
| 5278 ,, | −·08 | +·09 |
| Mean | −·09 | +·01 |
| Red$^{\mathrm{n}}$. to L. | +·02 | −·07 |
| Deduced……… | $1^{\mathrm{h}}\ 24^{\mathrm{m}}\ 0^{\mathrm{s}}{\cdot}477$ | 49° 25′ 30″·86 |
| **+ 46° 370.** | | |
| Provisional…… | $1^{\mathrm{h}}\ 24^{\mathrm{m}}\ 6^{\mathrm{s}}{\cdot}10$ | 46° 29′ 29″·3 |
| 1900. | | |
| 5287 Dec. 10 | −″·55 | +″·23 |
| Red$^{\mathrm{n}}$. to L. | +·03 | −·09 |
| Deduced……… | $1^{\mathrm{h}}\ 24^{\mathrm{m}}\ 6^{\mathrm{s}}{\cdot}150$ | 46° 29′ 29″·16 |
| **+ 51° 317.** | | |
| Provisional…… | $1^{\mathrm{h}}\ 24^{\mathrm{m}}\ 26^{\mathrm{s}}{\cdot}15$ | 51° 34′ 41″·5 |
| 1900. | | |
| 5270 Nov. 27 | +″·42 | −″·50 |
| 5271 ,, | +·31 | −·44 |
| 5272 ,, | −·04 | −·31 |
| 5273 ,, | +·32 | −·11 |
| 5274 ,, | +·43 | −·22 |
| 5275 Nov. 29 | +·16 | −·38 |
| Mean | +·25 | −·34 |
| Red$^{\mathrm{n}}$. to L. | +·01 | −·08 |
| Deduced……… | $1^{\mathrm{h}}\ 24^{\mathrm{m}}\ 26^{\mathrm{s}}{\cdot}123$ | 51° 34′ 41″·92 |
| **+ 47° 429.** | | |
| Provisional…… | $1^{\mathrm{h}}\ 24^{\mathrm{m}}\ 33^{\mathrm{s}}{\cdot}51$ | 47° 22′ 50″·3 |
| 1900. | | |
| 5285 Dec. 9 | −″·44 | +″·33 |
| 5286 ,, | −·24 | +·30 |
| 5287 Dec. 10 | −·34* | +·38* |
| Mean | −·34 | +·33 |
| Red$^{\mathrm{n}}$. to L. | ·00 | −·07 |
| Deduced……… | $1^{\mathrm{h}}\ 24^{\mathrm{m}}\ 33^{\mathrm{s}}{\cdot}544$ | 47° 22′ 50″·04 |
| **+ 46° 373.** | | |
| Provisional…… | $1^{\mathrm{h}}\ 24^{\mathrm{m}}\ 47^{\mathrm{s}}{\cdot}93$ | 47° 3′ 4″·5 |
| 1900. | | |
| 5285 Dec. 9 | −″·21 | +″·08 |
| 5286 ,, | −·24 | +·04 |
| 5287 Dec. 10 | −·10 | −·10 |
| Mean | −·18 | ·00 |
| Red$^{\mathrm{n}}$. to L. | ·00 | −·07 |
| Deduced……… | $1^{\mathrm{h}}\ 24^{\mathrm{m}}\ 47^{\mathrm{s}}{\cdot}948$ | 47° 3′ 4″·57 |
| **+ 47° 434.** | | |
| Provisional…… | $1^{\mathrm{h}}\ 24^{\mathrm{m}}\ 51^{\mathrm{s}}{\cdot}71$ | 47° 54′ 4″·4 |
| 1900. | | |
| 5276 Dec. 6 | +″·35 | +″·08 |
| 5277 ,, | +·20 | +·36 |
| 5278 ,, | +·31 | +·12 |
| 5279 Dec. 7 | +·28 | +·13 |
| 5280 ,, | +·40 | +·15 |
| 5283 ,, | +·44 | +·11 |
| 5285 Dec. 9 | +·31 | −·23 |
| 5286 ,, | +·42 | −·17 |
| Mean | +·34 | +·06 |
| Red$^{\mathrm{n}}$. to L. | +·01 | −·06 |
| Deduced……… | $1^{\mathrm{h}}\ 24^{\mathrm{m}}\ 51^{\mathrm{s}}{\cdot}675$ | 47° 54′ 4″·40 |
| **+ 48° 453.** | | |
| Provisional…… | $1^{\mathrm{h}}\ 24^{\mathrm{m}}\ 54^{\mathrm{s}}{\cdot}32$ | 48° 49′ 42″·4 |
| 1900. | | |
| 5276 Dec. 6 | −″·45 | +″·18 |
| 5277 ,, | −·36 | +·24 |
| 5278 ,, | −·52 | +·27 |
| 5279 Dec. 7 | −·59 | +·08 |
| 5280 ,, | −·63 | +·15 |
| 5283 ,, | −·37 | +·03 |
| Mean | −·49 | +·16 |
| Red$^{\mathrm{n}}$. to L. | +·02 | −·06 |
| Deduced……… | $1^{\mathrm{h}}\ 24^{\mathrm{m}}\ 54^{\mathrm{s}}{\cdot}367$ | 48° 49′ 42″·30 |
| **+ 48° 454.** | | |
| Provisional…… | $1^{\mathrm{h}}\ 25^{\mathrm{m}}\ 25^{\mathrm{s}}{\cdot}86$ | 48° 31′ 27″·5 |
| 1900. | | |
| 5276 Dec. 6 | +″·44 | −″·10 |
| 5277 ,, | +·17 | +·08 |
| 5278 ,, | +·28 | ·00 |
| 5279 Dec. 7 | +·24 | +·02 |
| 5280 ,, | +·25 | −·16 |
| 5283 ,, | +·22 | ·00 |
| Mean | +·27 | −·03 |
| Red$^{\mathrm{n}}$. to L. | +·02 | −·06 |
| Deduced……… | $1^{\mathrm{h}}\ 25^{\mathrm{m}}\ 25^{\mathrm{s}}{\cdot}831$ | 48° 31′ 27″·59 |
| **+ 48° 455.** | | |
| Provisional…… | $1^{\mathrm{h}}\ 25^{\mathrm{m}}\ 26^{\mathrm{s}}{\cdot}34$ | 48° 16′ 17″·5 |
| 1900. | | |
| 5276 Dec. 6 | −″·07 | −″·18 |
| 5277 ,, | −·13 | −·17 |
| 5278 ,, | −·02 | −·16 |
| 5279 Dec. 7 | −·04 | −·08 |
| 5280 ,, | ·00 | −·11 |
| 5283 ,, | −·15 | −·21 |
| 5285 Dec. 9 | ·00 | −·32 |
| 5286 ,, | −·14 | −·32 |
| Mean | −·07 | −·20 |
| Red$^{\mathrm{n}}$. to L. | +·01 | −·06 |
| Deduced……… | $1^{\mathrm{h}}\ 25^{\mathrm{m}}\ 26^{\mathrm{s}}{\cdot}346$ | 48° 16′ 17″·76 |
| **+ 51° 323.** | | |
| Provisional…… | $1^{\mathrm{h}}\ 25^{\mathrm{m}}\ 46^{\mathrm{s}}{\cdot}48$ | 51° 57′ 17″·2 |
| 1900. | | |
| 5270 Nov. 27 | −″·26 | +″·08 |
| 5271 ,, | −·30 | +·49 |
| 5272 ,, | −·48 | +·34 |
| 5273 ,, | −·53 | +·14 |
| 5274 ,, | −·41 | −·02 |
| Mean | −·40 | +·21 |
| Red$^{\mathrm{n}}$. to L. | +·01 | −·08 |
| Deduced……… | $1^{\mathrm{h}}\ 25^{\mathrm{m}}\ 46^{\mathrm{s}}{\cdot}522$ | 51° 57′ 17″·07 |

* Weight ½ has been given to these results, the star being between 55′ and 60′ from the centre of the plate.
† Not used in forming the mean, the star being more than 60′ from the centre of the plate.

TABLE VI.—Residuals from Photographs and Deduced Places of Reference Stars.

| Plate No. and Date. | R.A. 1900·0. | Dec. N. 1900·0. |
|---|---|---|
| | + 50° 298. | |
| Provisional...... | 1$^h$ 26$^m$ 12$^s$·70 | 50° 38′ 52″·1 |
| 1900. | | |
| 5275 Nov. 29 | +″·41 | +″·38 |
| | Red$^n$. to L. +·03 | −·10 |
| Deduced......... | 1$^h$ 26$^m$ 12$^s$·654 | 50° 38′ 51″·82 |
| | + 47° 442. | |
| Provisional...... | 1$^h$ 26$^m$ 16$^s$·90 | 47° 54′ 12″·9 |
| 1900. | | |
| 5276 Dec. 6 | +″·02 | −″·13 |
| 5277 ,, | +·16 | −·12 |
| 5278 ,, | +·04 | −·12 |
| 5279 Dec. 7 | +·08 | +·10 |
| 5280 ,, | +·02 | −·08 |
| 5283 ,, | −·01 | −·05 |
| 5285 Dec. 9 | +·24 | −·39 |
| 5286 ,, | +·15 | −·30 |
| | Mean +·09 | −·14 |
| | Red$^n$. to L. +·01 | −·06 |
| Deduced......... | 1$^h$ 26$^m$ 16$^s$·890 | 47° 54′ 13″·10 |
| | + 50° 299. | |
| Provisional...... | 1$^h$ 26$^m$ 22$^s$·59 | 50° 18′ 34″·4 |
| 1900. | | |
| 5275 Nov. 29 | −″·32 | +″·14 |
| | Red$^n$. to L. +·03 | −·10 |
| Deduced......... | 1$^h$ 26$^m$ 22$^s$·620 | 50° 18′ 34″·36 |
| | + 50° 300. | |
| Provisional...... | 1$^h$ 26$^m$ 48$^s$·72 | 50° 58′ 5″·0 |
| 1900. | | |
| 5270 Nov. 27 | +″·54 | +″·10 |
| 5271 ,, | +·57 | −·01 |
| 5272 ,, | +·46 | −·12 |
| 5273 ,, | +·70 | −·15 |
| 5274 ,, | +·82 | −·16 |
| 5275 Nov. 29 | +·74 | +·03 |
| | Mean +·65 | −·04 |
| | Red$^n$. to L. +·01 | −·08 |
| Deduced......... | 1$^h$ 26$^m$ 48$^s$·651 | 50° 58′ 5″·12 |
| | + 50° 301. | |
| Provisional...... | 1$^h$ 26$^m$ 59$^s$·90 | 50° 22′ 1″·1 |
| 1900. | | |
| 5275 Nov. 29 | +″·02 | +″·20 |
| | Red$^n$. to L. +·03 | −·10 |
| Deduced......... | 1$^h$ 26$^m$ 59$^s$·895 | 50° 22′ 1″·00 |
| | + 48° 463. | |
| Provisional...... | 1$^h$ 27$^m$ 16$^s$·21 | 48° 30′ 18″·9 |
| 1900. | | |
| 5276 Dec. 6 | −″·05 | +″·22 |
| 5277 ,, | −·03 | +·12 |
| 5278 ,, | −·05 | +·27 |
| 5279 Dec. 7 | +·02 | +·30 |
| 5280 ,, | +·23 | +·24 |
| 5283 ,, | +·13 | +·24 |
| | Mean +·04 | +·23 |
| | Red$^n$. to L. +·02 | −·06 |
| Deduced ....... | 1$^h$ 27$^m$ 16$^s$·204 | 48° 30′ 18″·73 |
| | + 51° 331. | |
| Provisional...... | 1$^h$ 27$^m$ 58$^s$·69 | 51° 19′ 13″·4 |
| 1900. | | |
| 5270 Nov. 27 | +″·03 | +″·21 |
| 5271 ,, | +·06 | +·16 |
| 5272 ,, | −·09 | +·08 |
| 5273 ,, | +·11 | +·20 |
| 5274 ,, | +·05 | +·16 |
| 5275 Nov. 29 | −·06 | +·09 |
| | Mean −·00 | +·14 |
| | Red$^n$. to L. +·01 | −·08 |
| Deduced......... | 1$^h$ 27$^m$ 58$^s$·689 | 51° 19′ 13″·34 |
| | + 45° 376. | |
| Provisional...... | 1$^h$ 28$^m$ 0$^s$·36 | 45° 27′ 47″·3 |
| 1900. | | |
| 5288 Dec. 13 | −″·16 | +″·05 |
| 5289 ,, | −·22 | +·08 |
| 5290 ,, | −·15 | +·09 |
| | + 45° 376.—*contd.* | |
| 1900. | | |
| 5294 Dec. 13 | −″·21 | −″·17 |
| 5297 ,, | −·15 | +·03 |
| 5299 Dec. 15 | −·04 | −·24 |
| 5300 ,, | −·12 | +·03 |
| 5304 ,, | −·14 | −·21 |
| 5306 ,, | −·27 | −·06 |
| 5307 ,, | −·17 | −·36 |
| | Mean −·16 | −·08 |
| | Red$^n$. to L. +·04 | −·07 |
| Deduced......... | 1$^h$ 28$^m$ 0$^s$·372 | 45° 27′ 47″·45 |
| | + 47° 450. | |
| Provisional...... | 1$^h$ 28$^m$ 5$^s$·32 | 47° 54′ 30″·5 |
| 1900. | | |
| 5276 Dec. 6 | −″·01 | +″·27 |
| 5277 ,, | +·08 | +·18 |
| 5278 ,, | +·03 | +·13 |
| 5279 Dec. 7 | −·22 | +·21 |
| 5280 ,, | −·09 | +·49 |
| 5283 ,, | −·08 | +·14 |
| 5285 Dec. 9 | +·12 | +·21 |
| 5286 ,, | −·03 | +·25 |
| | Mean −·02 | +·23 |
| | Red$^n$. to L. +·01 | −·06 |
| Deduced......... | 1$^h$ 28$^m$ 5$^s$·321 | 47° 54′ 30″·33 |
| | + 48° 470. | |
| Provisional...... | 1$^h$ 28$^m$ 20$^s$·31 | 49° 3′ 3″·7 |
| 1900. | | |
| 5276 Dec. 6 | −″·45 | −″·40 |
| 5277 ,, | −·31 | −·44 |
| 5278 ,, | −·34 | −·30 |
| 5279 Dec. 7 | −·52 | −·57 |
| 5280 ,, | −·29 | −·66 |
| 5283 ,, | −·44 | −·45 |
| | Mean −·39 | −·47 |
| | Red$^n$. to L. +·02 | −·06 |
| Deduced......... | 1$^h$ 28$^m$ 20$^s$·347 | 49° 3′ 4″·23 |

---

* Weight ½ has been given to these results, the star being between 55′ and 60′ from the centre of the plate.

† Not used in forming the mean, the star being more than 60′ from the centre of the plate.

TABLE VI.—Residuals from Photographs and Deduced Places of Reference Stars.

| Plate No. and Date. | R.A. 1900·0. | Dec. N. 1900·0. |
|---|---|---|
| **+ 45° 379.** | | |
| Provisional...... | $1^{h}\ 28^{m}\ 33^{s}{\cdot}25$ | $46^{\circ}\ 0'\ 46''{\cdot}0$ |
| 1900. | $''$ | $''$ |
| 5287 Dec. 10 | +·46 | −·27 |
| 5288 Dec. 13 | +·66 | −·01 |
| 5289 " | +·33 | ·00 |
| 5290 " | +·47 | +·08 |
| 5294 " | +·30 | −·07 |
| 5297 " | +·15 | −·05 |
| Mean | +·40 | −·08 |
| Red$^{n}$. to L. | +·04 | −·08 |
| Deduced......... | $1^{h}\ 28^{m}\ 33^{s}{\cdot}208$ | $46^{\circ}\ 0'\ 46''{\cdot}16$ |
| **+ 51° 334.** | | |
| Provisional...... | $1^{h}\ 28^{m}\ 33^{s}{\cdot}79$ | $51^{\circ}\ 38'\ 28''{\cdot}9$ |
| 1900. | $''$ | $''$ |
| 5267 Nov. 25 | +·17 | +·15 |
| 5268 " | +·08 | −·02 |
| 5269 " | +·16 | +·22 |
| 5270 Nov. 27 | +·07 | −·05 |
| 5271 " | +·09 | +·03 |
| 5272 " | +·01 | −·11 |
| 5273 " | +·11 | −·07 |
| 5274 " | +·05 | −·10 |
| 5275 Nov. 29 | +·05 | −·26 |
| Mean | +·09 | −·03 |
| Red$^{n}$. to L. | ·00 | −·08 |
| Deduced......... | $1^{h}\ 28^{m}\ 33^{s}{\cdot}781$ | $51^{\circ}\ 38'\ 29''{\cdot}01$ |
| **+ 44° 326.** | | |
| Provisional...... | $1^{h}\ 28^{m}\ 37^{s}{\cdot}80$ | $45^{\circ}\ 4'\ 57''{\cdot}8$ |
| 1900. | $''$ | $''$ |
| 5288 Dec. 13 | +·05 | −·06 |
| 5289 " | −·06 | −·22 |
| 5290 " | −·11 | −·15 |
| 5294 " | +·13 | −·34 |
| 5297 " | +·10 | +·07 |
| 5299 Dec. 15 | +·16 | −·40 |
| 5300 " | −·15 | −·36 |
| 5304 " | −·06 | −·36 |
| 5306 " | +·02 | −·27 |
| 5307 " | −·34 | −·28 |
| 5308 Dec. 16 | −·13 | −·42 |
| Mean | −·04 | −·27 |
| Red$^{n}$. to L. | +·04 | −·07 |
| Deduced......... | $1^{h}\ 28^{m}\ 37^{s}{\cdot}800$ | $45^{\circ}\ 4'\ 58''{\cdot}14$ |
| **+ 45° 383.** | | |
| Provisional...... | $1^{h}\ 29^{m}\ 15^{s}{\cdot}87$ | $45^{\circ}\ 19'\ 0''{\cdot}2$ |
| 1900. | $''$ | $''$ |
| 5288 Dec. 13 | +·57 | +·04 |
| 5289 " | +·47 | −·05 |
| 5290 " | +·45 | −·07 |
| 5294 " | +·74 | −·15 |
| 5297 " | +·38 | +·08 |
| 5299 Dec. 15 | +·49 | −·12 |
| 5300 " | +·27 | −·12 |
| 5304 " | +·34 | −·12 |
| 5306 " | +·32 | −·04 |
| 5307 " | +·23 | +·07 |
| 5308 Dec. 16 | +·31* | +·01* |
| Mean | +·42 | −·05 |
| Red$^{n}$. to L. | +·04 | −·07 |
| Deduced......... | $1^{h}\ 29^{m}\ 15^{s}{\cdot}826$ | $45^{\circ}\ 19'\ 0''{\cdot}32$ |
| **+ 44° 329.** | | |
| Provisional...... | $1^{h}\ 29^{m}\ 20^{s}{\cdot}36$ | $44^{\circ}\ 24'\ 51''{\cdot}6$ |
| 1900. | $''$ | $''$ |
| 5299 Dec. 15 | −·31 | +·08 |
| 5300 " | −·39 | −·03 |
| 5304 " | +·01 | +·04 |
| 5306 " | −·22 | +·16 |
| 5307 " | −·13 | (+·43) |
| 5308 Dec. 16 | −·22 | −·17 |
| 5309 Dec. 17 | −·31 | −·15 |
| 5310 " | −·35 | −·09 |
| 5313 " | +·11 | −·04 |
| Mean | −·20 | −·04 |
| Red$^{n}$. to L. | +·04 | −·07 |
| Deduced......... | $1^{h}\ 29^{m}\ 20^{s}{\cdot}376$ | $44^{\circ}\ 24'\ 51''{\cdot}71$ |
| **+ 51° 338.** | | |
| Provisional...... | $1^{h}\ 29^{m}\ 22^{s}{\cdot}51$ | $51^{\circ}\ 39'\ 7''{\cdot}7$ |
| 1900. | $''$ | $''$ |
| 5267 Nov. 25 | −·27 | −·09 |
| 5268 " | −·45 | −·09 |
| 5269 " | −·30 | −·19 |
| 5275 Nov. 29 | −·34 | −·38 |
| Mean | −·34 | −·21 |
| Red$^{n}$. to L. | ·00 | −·08 |
| Deduced......... | $1^{h}\ 29^{m}\ 22^{s}{\cdot}545$ | $51^{\circ}\ 39'\ 7''{\cdot}99$ |
| **+ 46° 389.** | | |
| Provisional...... | $1^{h}\ 29^{m}\ 30^{s}{\cdot}47$ | $46^{\circ}\ 22'\ 51''{\cdot}8$ |
| 1900. | $''$ | $''$ |
| 5287 Dec. 10 | +·46 | +·33 |
| 5288 Dec. 13 | +·30 | +·26 |
| 5289 " | +·41 | +·34 |
| 5290 " | +·45 | +·31 |
| 5294 " | +·34 | +·41 |
| 5297 " | +·47 | +·25 |
| Mean | +·41 | +·32 |
| Red$^{n}$. to L. | +·04 | −·08 |
| Deduced......... | $1^{h}\ 29^{m}\ 30^{s}{\cdot}426$ | $46^{\circ}\ 22'\ 51''{\cdot}56$ |
| **+ 46° 393.** | | |
| Provisional...... | $1^{h}\ 29^{m}\ 59^{s}{\cdot}28$ | $46^{\circ}\ 36'\ 11''{\cdot}5$ |
| 1900. | $''$ | $''$ |
| 5287 Dec. 10 | −·45 | −·24 |
| 5288 Dec. 13 | −·80 | −·11 |
| 5289 " | −·54 | −·07 |
| 5290 " | −·66 | −·14 |
| 5294 " | −·82 | −·21 |
| 5297 " | −·72 | −·10 |
| Mean | −·63 | −·16 |
| Red$^{n}$. to L. | +·04 | −·08 |
| Deduced......... | $1^{h}\ 29^{m}\ 59^{s}{\cdot}337$ | $46^{\circ}\ 36'\ 11''{\cdot}74$ |
| **+ 48° 477.** | | |
| Provisional...... | $1^{h}\ 30^{m}\ 3^{s}{\cdot}17$ | $48^{\circ}\ 41'\ 35''{\cdot}7$ |
| 1900. | $''$ | $''$ |
| 5276 Dec. 6 | +·40 | +·14 |
| 5277 " | +·10 | +·01 |
| 5278 " | +·37 | −·14 |
| 5279 Dec. 7 | +·36 | −·21 |
| 5280 " | +·24 | −·22 |
| 5283 " | +·36 | −·22 |
| Mean | +·31 | −·11 |
| Red$^{n}$. to L. | +·02 | −·06 |
| Deduced......... | $1^{h}\ 30^{m}\ 3^{s}{\cdot}137$ | $48^{\circ}\ 41'\ 35''{\cdot}87$ |

* Weight ½ has been given to these results, the star being between 55′ and 60′ from the centre of the plate.

† Not used in forming the mean, the star being more than 60′ from the centre of the plate.

## TABLE VI.—Residuals from Photographs and Deduced Places of Reference Stars.

+ 46° 397.

| Plate No. and Date. | R.A. 1900·0. | Dec. N. 1900·0. |
|---|---|---|
| Provisional...... | $1^h\ 30^m\ 18^s{\cdot}73$ | 46° 48′ 53″·8 |
| 1900. | | |
| 5285 Dec. 9 | +″·05 | −″·13 |
| 5286 „ | +·03 | −·50 |
| 5287 Dec. 10 | +·16 | −·18 |
| 5288 Dec. 13 | −·03 | −·10 |
| 5289 „ | +·08 | −·11 |
| 5290 „ | +·05 | −·09 |
| 5294 „ | −·12 | +·13 |
| 5297 „ | +·19 | −·17 |
| Mean | +·06 | −·17 |
| Red$^n$. to L. | +·02 | −·08 |
| Deduced......... | $1^h\ 30^m\ 18^s{\cdot}722$ | 46° 48′ 54″·05 |

+ 47° 460.

| Plate No. and Date. | R.A. 1900·0. | Dec. N. 1900·0. |
|---|---|---|
| Provisional...... | $1^h\ 30^m\ 20^s{\cdot}27$ | 48° 12′ 43″·7 |
| 1900. | | |
| 5276 Dec. 6 | −″·04 | −·09 |
| 5277 „ | +·15 | −·22 |
| 5278 „ | −·04 | −·17 |
| 5279 Dec. 7 | −·03 | +·02 |
| 5280 „ | −·25 | +·12 |
| 5283 „ | −·08 | +·34 |
| 5285 Dec. 9 | −·24 | +·35 |
| 5286 „ | −·09 | +·36 |
| Mean | −·08 | +·10 |
| Red$^n$. to L. | +·01 | −·06 |
| Deduced......... | $1^h\ 30^m\ 20^s{\cdot}277$ | 48° 12′ 43″·66 |

+ 51° 339.

| Plate No. and Date. | R.A. 1900·0. | Dec. N. 1900·0. |
|---|---|---|
| Provisional...... | $1^h\ 30^m\ 24^s{\cdot}34$ | 51° 14′ 15″·9 |
| 1900. | | |
| 5270 Nov. 27 | −″·34 | +″·03 |
| 5271 „ | −·12 | +·05 |
| 5272 „ | −·18 | +·05 |
| 5273 „ | −·46 | −·03 |
| 5274 „ | −·54 | +·14 |
| 5275 Nov. 29 | −·37 | +·02 |
| Mean | −·34 | +·04 |
| Red$^n$. to L. | +·01 | −·08 |
| Deduced......... | $1^h\ 30^m\ 24^s{\cdot}375$ | 51° 14′ 15″·94 |

+ 47° 462.

| Plate No. and Date. | R.A. 1900·0. | Dec. N. 1900·0. |
|---|---|---|
| Provisional...... | $1^h\ 30^m\ 32^s{\cdot}85$ | 47° 33′ 44″·7 |
| 1900. | | |
| 5285 Dec. 9 | −″·11 | +·12 |
| 5286 „ | −·11 | +·28 |
| 5287 Dec. 10 | +·10 | +·20 |
| Mean | −·03 | +·20 |
| Red$^n$. to L. | ·00 | −·07 |
| Deduced......... | $1^h\ 30^m\ 32^s{\cdot}853$ | 47° 33′ 44″·57 |

+ 52° 387.

| Plate No. and Date. | R.A. 1900·0. | Dec. N. 1900·0. |
|---|---|---|
| Provisional...... | $1^h\ 30^m\ 39^s{\cdot}42$ | 52° 35′ 43″·1 |
| 1900. | | |
| 5253 Nov. 22 | +″·46 | −″·12 |
| 5254 „ | +·40 | +·03 |
| 5256 „ | +·60 | +·15 |
| 5257 „ | +·59 | +·10 |
| 5258 „ | +·62 | +·15 |
| 5259 „ | +·44 | −·07 |
| 5260 „ | +·41 | +·03 |
| 5261 Nov. 23 | +·52 | −·22 |
| 5262 „ | +·76 | −·13 |
| 5263 „ | +·58 | +·04 |
| 5264 „ | +·51 | −·03 |
| 5267 Nov. 25 | +·75 | −·07 |
| 5268 „ | +·47 | −·03 |
| 5269 „ | +·54 | −·25 |
| Mean | +·55 | −·05 |
| Red$^n$. to L. | −·04 | −·07 |
| Deduced......... | $1^h\ 30^m\ 39^s{\cdot}363$ | 52° 35′ 43″·22 |

+ 47° 463.

| Plate No. and Date. | R.A. 1900·0. | Dec. N. 1900·0. |
|---|---|---|
| Provisional...... | $1^h\ 30^m\ 40^s{\cdot}33$ | 47° 48′ 17″·0 |
| 1900. | | |
| 5279 Dec. 7 | +″·46 | +″·05 |
| 5280 „ | +·17 | +·10 |
| 5283 „ | +·06 | +·09 |
| 5285 Dec. 9 | +·30 | +·02 |
| 5286 „ | +·20 | +·06 |
| Mean | +·24 | +·06 |
| Red$^n$. to L. | ·00 | −·05 |
| Deduced......... | $1^h\ 30^m\ 40^s{\cdot}306$ | 47° 48′ 16″·99 |

+ 50° 314.

| Plate No. and Date. | R.A. 1900·0. | Dec. N. 1900·0. |
|---|---|---|
| Provisional...... | $1^h\ 30^m\ 44^s{\cdot}59$ | 50° 44′ 59″·5 |
| 1900. | | |
| 5275 Nov. 29 | −″·34 | +″·17 |
| Red$^n$. to L. | +·03 | −·10 |
| Deduced......... | $1^h\ 30^m\ 44^s{\cdot}623$ | 50° 44′ 59″·43 |

+ 49° 418.

| Plate No. and Date. | R.A. 1900·0. | Dec. N. 1900·0. |
|---|---|---|
| Provisional...... | $1^h\ 30^m\ 56^s{\cdot}34$ | 49° 25′ 43″·6 |
| 1900. | | |
| 5276 Dec. 6 | +1″·59 | +″·55 |
| Red$^n$. to L. | +·02 | −·07 |
| Deduced......... | $1^h\ 30^m\ 56^s{\cdot}174$ | 49° 25′ 43″·12 |

+ 51° 344.

| Plate No. and Date. | R.A. 1900·0. | Dec. N. 1900·0. |
|---|---|---|
| Provisional...... | $1^h\ 31^m\ 9^s{\cdot}48$ | 52° 7′ 14″·8 |
| 1900. | | |
| 5261 Nov. 23 | +″·50 | +″·18 |
| 5262 „ | +·56 | −·04 |
| 5263 „ | +·62 | +·21 |
| 5264 „ | +·46 | +·12 |
| 5267 Nov. 25 | +·65 | +·14 |
| 5268 „ | +·44 | +·17 |
| 5269 „ | +·61 | +·08 |
| 5270 Nov. 27 | +·27 | +·06 |
| 5271 „ | +·24 | +·03 |
| 5272 „ | +·26 | +·02 |
| 5273 „ | +·34 | ·00 |
| 5274 „ | +·22 | +·04 |
| Mean | +·44 | +·09 |
| Red$^n$. to L. | −·02 | −·07 |
| Deduced......... | $1^h\ 31^m\ 9^s{\cdot}435$ | 52° 7′ 14″·78 |

+ 46° 404.

| Plate No. and Date. | R.A. 1900·0. | Dec. N. 1900·0. |
|---|---|---|
| Provisional...... | $1^h\ 31^m\ 12^s{\cdot}89$ | 46° 26′ 18″·7 |
| 1900. | | |
| 5287 Dec. 10 | −″·15 | −″·10 |
| 5288 Dec. 13 | −·41 | −·33 |
| 5289 „ | −·53 | −·21 |

---

* Weight ½ has been given to these results, the star being between 55′ and 60′ from the centre of the plate.
† Not used in forming the mean, the star being more than 60′ from the centre of the plate.

TABLE VI.—Residuals from Photographs and Deduced Places of Reference Stars.

| Plate No. and Date. | R.A. 1900·0. | Dec. N. 1900·0. |
|---|---|---|
| + 46° 404—*contd.* | | |
| 1900. | | |
| 5290 Dec. 13 | −″·49 | −″·18 |
| 5294 ,, | −·47 | −·15 |
| 5297 ,, | −·36 | −·33 |
| | Mean −·36 | −·20 |
| | $\text{Red}^{\text{n}}$. to L. +·04 | −·08 |
| Deduced……… | $1^{\text{h}}\ 31^{\text{m}}\ 12^{\text{s}}{\cdot}920$ | 46° 26′ 18″·98 |
| + 45° 392. | | |
| Provisional…… | $1^{\text{h}}\ 31^{\text{m}}\ 13^{\text{s}}{\cdot}76$ | 45° 56′ 57″·6 |
| 1900. | | |
| 5288 Dec. 13 | +″·04 | +″·16 |
| 5289 ,, | +·13 | +·23 |
| 5290 ,, | −·06 | +·25 |
| 5294 ,, | −·12 | +·25 |
| 5297 ,, | −·09 | +·13 |
| 5299 Dec. 15 | −·22 | +·20 |
| 5300 ,, | −·13 | +·19 |
| 5304 ,, | −·30 | +·04 |
| 5306 ,, | −·25 | +·22 |
| 5307 ,, | −·26 | +·05 |
| | Mean −·13 | +·17 |
| | $\text{Red}^{\text{n}}$. to L. +·04 | −·07 |
| Deduced……… | $1^{\text{h}}\ 31^{\text{m}}\ 13^{\text{s}}{\cdot}769$ | 45° 56′ 57″·50 |
| + 45° 394. | | |
| Provisional…… | $1^{\text{h}}\ 31^{\text{m}}\ 25^{\text{s}}{\cdot}13$ | 45° 26′ 52″·2 |
| 1900. | | |
| 5288 Dec. 13 | −″·11 | +″·16 |
| 5289 ,, | −·07 | +·22 |
| 5290 ,, | −·05 | +·16 |
| 5294 ,, | −·01 | +·09 |
| 5297 ,, | +·01 | +·08 |
| 5299 Dec. 15 | +·09 | +·14 |
| 5300 ,, | −·06 | +·09 |
| 5304 ,, | −·03 | +·11 |
| 5306 ,, | −·18 | −·01 |
| 5307 ,, | −·33 | +·02 |
| 5308 Dec. 16 | −·16 | +·12 |
| | Mean −·09 | +·11 |
| | $\text{Red}^{\text{n}}$. to L. +·04 | −·07 |
| Deduced……… | $1^{\text{h}}\ 31^{\text{m}}\ 25^{\text{s}}{\cdot}135$ | 45° 26′ 52″·16 |
| + 44° 335. | | |
| Provisional…… | $1^{\text{h}}\ 32^{\text{m}}\ 5^{\text{s}}{\cdot}13$ | 44° 18′ 30″·9 |
| 1900. | | |
| 5299 Dec. 15 | +″·35 | +″·09 |
| 5300 ,, | +·39 | +·01 |
| 5304 ,, | +·63 | −·21 |
| 5306 ,, | +·45 | −·09 |
| 5307 ,, | +·53 | +·02 |
| 5308 Dec. 16 | +·56 | −·01 |
| 5309 Dec. 17 | +·48 | −·18 |
| 5310 ,, | +·36 | −·07 |
| 5313 ,, | +·71 | +·01 |
| | Mean +·50 | −·05 |
| | $\text{Red}^{\text{n}}$. to L. +·04 | −·07 |
| Deduced……… | $1^{\text{h}}\ 32^{\text{m}}\ 5^{\text{s}}{\cdot}079$ | 44° 18′ 31″·02 |
| + 44° 337. | | |
| Provisional…… | $1^{\text{h}}\ 32^{\text{m}}\ 20^{\text{s}}{\cdot}58$ | 45° 9′ 17″·9 |
| 1900. | | |
| 5288 Dec. 13 | −″·02 | −″·08 |
| 5289 ,, | +·09 | −·22 |
| 5290 ,, | +·14 | −·33 |
| 5294 ,, | +·43 | −·13 |
| 5297 ,, | +·21 | −·03 |
| 5299 Dec. 15 | +·03 | +·11 |
| 5300 ,, | −·01 | +·10 |
| 5304 ,, | −·11 | +·22 |
| 5306 ,, | −·18 | +·06 |
| 5307 ,, | −·16 | +·22 |
| 5308 Dec. 16 | −·03 | +·16 |
| 5309 Dec. 17 | −·27* | +·35* |
| 5310 ,, | −·18* | +·62* |
| 5313 ,, | +·22* | +·13* |
| | Mean +·01 | +·07 |
| | $\text{Red}^{\text{n}}$. to L. +·04 | −·07 |
| Deduced……… | $1^{\text{h}}\ 32^{\text{m}}\ 20^{\text{s}}{\cdot}575$ | 45° 9′ 17″·90 |
| + 45° 398. | | |
| Provisional…… | $1^{\text{h}}\ 32^{\text{m}}\ 22^{\text{s}}{\cdot}31$ | 45° 55′ 6″·9 |
| 1900. | | |
| 5287 Dec. 10 | +″·39† | −″·22† |
| 5288 Dec. 13 | −·06 | −·04 |
| 5289 ,, | −·08 | −·01 |
| 5290 ,, | −·05 | ·00 |
| 5294 ,, | −·14 | +·09 |
| + 45° 398—*contd.* | | |
| 1900. | | |
| 5297 Dec. 13 | −″·11 | −″·01 |
| 5299 Dec. 15 | −·36 | −·03 |
| 5300 ,, | −·20 | +·05 |
| 5304 ,, | −·45 | −·08 |
| 5306 ,, | −·31 | −·11 |
| 5307 ,, | −·19 | −·14 |
| | Mean −·20 | −·03 |
| | $\text{Red}^{\text{n}}$. to L. +·04 | −·07 |
| Deduced……… | $1^{\text{h}}\ 32^{\text{m}}\ 22^{\text{s}}{\cdot}325$ | 45° 55′ 7″·00 |
| + 44° 341. | | |
| Provisional…… | $1^{\text{h}}\ 32^{\text{m}}\ 30^{\text{s}}{\cdot}31$ | 44° 53′ 26″·2 |
| 1900. | | |
| 5309 Dec. 17 | −″·08 | +″·07 |
| 5310 ,, | −·08 | +·24 |
| | Mean −·08 | +·16 |
| | $\text{Red}^{\text{n}}$. to L. +·04 | −·08 |
| Deduced……… | $1^{\text{h}}\ 32^{\text{m}}\ 30^{\text{s}}{\cdot}314$ | 44° 53′ 26″·12 |
| + 52° 393. | | |
| Provisional…… | $1^{\text{h}}\ 32^{\text{m}}\ 31^{\text{s}}{\cdot}70$ | 52° 43′ 46″·9 |
| 1900. | | |
| 5253 Nov. 22 | +″·06 | −″·38 |
| 5254 ,, | −·12 | −·43 |
| 5256 ,, | +·06 | −·34 |
| 5256 ,, | −·22 | −·15 |
| 5258 ,, | ·00 | −·16 |
| 5259 ,, | −·06 | −·33 |
| 5260 ,, | −·26 | −·44 |
| 5261 Nov. 23 | +·06 | −·32 |
| 5262 ,, | +·05 | −·43 |
| 5263 ,, | −·14 | −·12 |
| 5264 ,, | −·09 | −·04 |
| 5267 Nov. 25 | +·17 | −·37 |
| 5268 ,, | +·06 | −·42 |
| 5269 ,, | +·13 | −·37 |
| | Mean −·01 | −·31 |
| | $\text{Red}^{\text{n}}$. to L. −·04 | −·07 |
| Deduced……… | $1^{\text{h}}\ 32^{\text{m}}\ 31^{\text{s}}{\cdot}705$ | 52° 43′ 47″·28 |

* Weight ½ has been given to these results, the star being between 55′ and 60′ from the centre of the plate.
† Not used in forming the mean, the star being more than 60′ from the centre of the plate.

## TABLE VI.—Residuals from Photographs and Deduced Places of Reference Stars.

**+ 43° 337.**

| Plate No. and Date. | R.A. 1900·0. | Dec. N. 1900·0. |
|---|---|---|
| Provisional...... | $1^{h}\ 32^{m}\ 39^{s}{\cdot}73$ | $43^{\circ}\ 38'\ 8''{\cdot}3$ |
| 1900. | | |
| 5309 Dec. 17 | +″·11 | +″·06 |
| 5310 ,, | +·04 | −·19 |
| 5313 ,, | −·19 | +·07 |
| 5314 Dec. 19 | −·27 | −·37 |
| 5315 ,, | −·04 | −·03 |
| 5318 ,, | +·06 | −·04 |
| 5319 ,, | +·08 | −·07 |
| 5322 ,, | ·00 | −·05 |
| 5324 ,, | ·00 | −·24 |
| Mean | −·02 | −·09 |
| Red$^{n}$. to L. | +·01 | −·07 |
| Deduced......... | $1^{h}\ 32^{m}\ 39^{s}{\cdot}731$ | $43^{\circ}\ 38'\ 8''{\cdot}46$ |

**+ 53° 355.**

| Plate No. and Date. | R.A. 1900·0. | Dec. N. 1900·0. |
|---|---|---|
| Provisional...... | $1^{h}\ 33^{m}\ 5^{s}{\cdot}05$ | $53^{\circ}\ 37'\ 37''{\cdot}1$ |
| 1900. | | |
| 5253 Nov. 22 | +″·14 | +″·03 |
| 5254 ,, | −·01 | +·32 |
| 5256 ,, | +·02 | −·02 |
| 5257 ,, | +·26 | −·03 |
| 5258 ,, | +·18 | −·15 |
| 5259 ,, | +·32 | +·04 |
| 5260 ,, | +·28 | +·17 |
| Mean | +·17 | +·05 |
| Red$^{n}$. to L. | −·05 | −·08 |
| Deduced......... | $1^{h}\ 33^{m}\ 5^{s}{\cdot}037$ | $53^{\circ}\ 37'\ 37''{\cdot}13$ |

**+ 43° 341.**

| Plate No. and Date. | R.A. 1900·0. | Dec. N. 1900·0. |
|---|---|---|
| Provisional...... | $1^{h}\ 33^{m}\ 10^{s}{\cdot}22$ | $43^{\circ}\ 31'\ 33''{\cdot}1$ |
| 1900. | | |
| 5309 Dec. 17 | +″·30 | −″·07 |
| 5310 ,, | +·31 | −·11 |
| 5313 ,, | +·11 | +·01 |
| 5314 Dec. 19 | +·22 | −·27 |
| 5315 ,, | +·06 | −·11 |
| 5318 ,, | +·29 | −·01 |
| 5319 ,, | +·51 | −·05 |
| 5322 ,, | +·29 | +·09 |
| 5324 ,, | +·41 | +·03 |
| Mean | +·28 | −·05 |
| Red$^{n}$. to L. | +·01 | −·07 |
| Deduced......... | $1^{h}\ 33^{m}\ 10^{s}{\cdot}194$ | $43^{\circ}\ 31'\ 33''{\cdot}22$ |

**+ 52° 399.**

| Plate No. and Date. | R.A. 1900·0. | Dec. N. 1900·0. |
|---|---|---|
| Provisional...... | $1^{h}\ 33^{m}\ 13^{s}{\cdot}47$ | $52^{\circ}\ 24'\ 27''{\cdot}0$ |
| 1900. | | |
| 5253 Nov. 22 | −″·09 | +″·07 |
| 5254 ,, | −·18 | −·34 |
| 5256 ,, | −·27 | −·11 |
| 5257 ,, | −·15 | −·20 |
| 5258 ,, | −·17 | −·12 |
| 5259 ,, | −·18 | −·22 |
| 5260 ,, | −·21 | −·22 |
| 5261 Nov. 23 | −·26 | −·03 |
| 5262 ,, | −·30 | −·20 |
| 5263 ,, | −·32 | −·11 |
| 5264 ,, | −·15 | −·07 |
| 5267 Nov. 25 | −·24 | −·22 |
| 5268 ,, | −·06 | −·01 |
| 5269 ,, | −·24 | +·01 |
| Mean | −·21 | −·12 |
| Red$^{n}$. to L. | −·04 | −·07 |
| Deduced......... | $1^{h}\ 33^{m}\ 13^{s}{\cdot}497$ | $52^{\circ}\ 24'\ 27''{\cdot}19$ |

**+ 51° 357.**

| Plate No. and Date. | R.A. 1900·0. | Dec. N. 1900·0. |
|---|---|---|
| Provisional...... | $1^{h}\ 33^{m}\ 13^{s}{\cdot}70$ | $51^{\circ}\ 45'\ 32''{\cdot}9$ |
| 1900. | | |
| 5267 Nov. 25 | +″·10 | +″·43 |
| 5268 ,, | +·01 | +·21 |
| 5269 ,, | +·06 | +·22 |
| 5270 Nov. 27 | −·22 | +·35 |
| 5271 ,, | +·05 | +·24 |
| 5272 ,, | +·30 | +·31 |
| 5273 ,, | −·05 | +·26 |
| 5274 ,, | −·02 | +·30 |
| Mean | +·03 | +·29 |
| Red$^{n}$. to L. | ·00 | −·08 |
| Deduced......... | $1^{h}\ 33^{m}\ 13^{s}{\cdot}697$ | $51^{\circ}\ 45'\ 32''{\cdot}69$ |

**+ 43° 343.**

| Plate No. and Date. | R.A. 1900·0. | Dec. N. 1900·0. |
|---|---|---|
| Provisional...... | $1^{h}\ 33^{m}\ 21^{s}{\cdot}02$ | $43^{\circ}\ 52'\ 39''{\cdot}2$ |
| 1900. | | |
| 5308 Dec. 16 | −″·19 | +″·42 |
| 5309 Dec. 17 | −·01 | +·15 |
| 5310 ,, | +·01 | +·09 |
| 5314 Dec. 19 | −·06 | +·49 |
| 5315 ,, | (−·39) | (+·59) |

**+ 43° 343—*contd.***

| Plate No. and Date. | R.A. 1900·0. | Dec. N. 1900·0. |
|---|---|---|
| 1900. | | |
| 5318 Dec. 19 | −″·31 | +″·13 |
| 5319 ,, | −·06 | +·05 |
| 5322 ,, | −·09 | +·16 |
| 5324 ,, | −·03 | −·10 |
| Mean | −·09 | +·20 |
| Red$^{n}$. to L. | +·02 | −·06 |
| Deduced......... | $1^{h}\ 33^{m}\ 21^{s}{\cdot}026$ | $43^{\circ}\ 52'\ 39''{\cdot}06$ |

**+ 51° 360.**

| Plate No. and Date. | R.A. 1900·0. | Dec. N. 1900·0. |
|---|---|---|
| Provisional...... | $1^{h}\ 33^{m}\ 34^{s}{\cdot}41$ | $52^{\circ}\ 8'\ 21''{\cdot}6$ |
| 1900. | | |
| 5253 Nov. 22 | −″·06 | −″·01 |
| 5254 ,, | +·04 | −·18 |
| 5256 ,, | +·09 | −·18 |
| 5257 ,, | −·19 | +·02 |
| 5258 ,, | +·06 | −·14 |
| 5259 ,, | −·10 | −·19 |
| 5260 ,, | +·20 | −·15 |
| 5261 Nov. 23 | −·11 | −·14 |
| 5262 ,, | −·21 | −·30 |
| 5263 ,, | +·02 | −·18 |
| 5264 ,, | −·23 | −·26 |
| 5267 Nov. 25 | +·11 | −·11 |
| 5268 ,, | −·11 | −·10 |
| 5269 ,, | −·08 | −·03 |
| 5270 Nov. 27 | −·07 | −·08 |
| 5271 ,, | −·25 | −·18 |
| 5272 ,, | +·06 | +·06 |
| 5273 ,, | −·07 | −·06 |
| 5274 ,, | −·01 | +·03 |
| Mean | −·05 | −·12 |
| Red$^{n}$. to L. | −·03 | −·08 |
| Deduced ....... | $1^{h}\ 33^{m}\ 34^{s}{\cdot}418$ | $52^{\circ}\ 8'\ 21''{\cdot}80$ |

**+ 53° 363.**

| Plate No. and Date. | R.A. 1900·0. | Dec. N. 1900·0. |
|---|---|---|
| Provisional...... | $1^{h}\ 33^{m}\ 51^{s}{\cdot}49$ | $53^{\circ}\ 21'\ 39''{\cdot}3$ |
| 1900. | | |
| 5253 Nov. 22 | −″·17 | +″·52 |
| 5254 ,, | −·08 | +·80 |
| 5256 ,, | +·23 | +·57 |
| 5257 ,, | +·21 | +·76 |
| 5258 ,, | +·05 | +·52 |
| 5259 ,, | +·10 | +·63 |

---

* Weight ½ has been given to these results, the star being between 55′ and 60′ from the centre of the plate.

† Not used in forming the mean, the star being more than 60′ from the centre of the plate.

TABLE VI.—Residuals from Photographs and Deduced Places of Reference Stars.

+ 53° 363—*contd.*

| Plate No. and Date. | | R.A. 1900·0. | Dec. N. 1900·0. |
|---|---|---|---|
| | 1900. | | |
| 5260 | Nov. 22 | +″·06 | +″·76 |
| 5261 | Nov. 23 | −·07 | +·61 |
| 5262 | ,, | −·01 | +·72 |
| 5263 | ,, | −·11 | +·40 |
| 5264 | ,, | −·01 | +·57 |
| | | Mean +·01 | +·62 |
| | | Red$^n$. to L. −·05 | −·08 |
| Deduced……… | | $1^h\ 33^m\ 51^s{\cdot}494$ | 53° 21′ 38″·76 |

+ 51° 363.

| Plate No. and Date. | | R.A. 1900·0. | Dec. N. 1900·0. |
|---|---|---|---|
| Provisional…… | | $1^h\ 34^m\ 2^s{\cdot}55$ | 51° 21′ 27″·4 |
| | 1900. | | |
| 5267 | Nov. 25 | −″·87 | −″·01 |
| 5268 | ,, | −·30 | −·22 |
| 5269 | ,, | −·44 | −·19 |
| 5270 | Nov. 27 | −·42 | −·19 |
| 5271 | ,, | −·47 | −·33 |
| 5272 | ,, | −·27 | −·27 |
| 5273 | ,, | −·46 | −·17 |
| 5274 | ,, | −·60 | −·15 |
| | | Mean −·48 | −·18 |
| | | Red$^n$. to L. ·00 | −·08 |
| Deduced……… | | $1^h\ 34^m\ 2^s{\cdot}601$ | 51° 21′ 27″·66 |

+ 51° 364.

| Plate No. and Date. | | R.A. 1900·0. | Dec. N. 1900·0. |
|---|---|---|---|
| Provisional…… | | $1^h\ 34^m\ 10^s{\cdot}34$ | 52° 1′ 21″·5 |
| | 1900. | | |
| 5261 | Nov. 23 | +″·15 | +″·48 |
| 5262 | ,, | −·08 | +·32 |
| 5263 | ,, | +·09 | +·31 |
| 5264 | ,, | +·04 | +·11 |
| 5267 | Nov. 25 | −·14 | +·34 |
| 5268 | ,, | −·08 | +·34 |
| 5269 | ,, | −·10 | +·49 |
| | | Mean −·02 | +·35 |
| | | Red$^n$. to L. −·04 | −·07 |
| Deduced……… | | $1^h\ 34^m\ 10^s{\cdot}346$ | 52° 1′ 21″·22 |

+ 44° 346.

| Plate No. and Date. | | R.A. 1900·0. | Dec. N. 1900·0. |
|---|---|---|---|
| Provisional…… | | $1^h\ 34^m\ 45^s{\cdot}27$ | 44° 16′ 29″·3 |
| | 1900. | | |
| 5308 | Dec. 16 | +″·15 | +″·13 |
| 5309 | Dec. 17 | +·46 | −·05 |
| 5310 | ,, | +·39 | −·05 |
| 5313 | ,, | +·26 | +·10 |
| 5314 | Dec. 19 | −·06 | +·37 |
| 5315 | ,, | +·24 | +·33 |
| 5318 | ,, | +·20 | +·26 |
| 5319 | ,, | +·28 | −·09 |
| 5322 | ,, | +·13 | +·30 |
| 5324 | ,, | +·41 | +·04 |
| | | Mean +·25 | +·12 |
| | | Red$^n$. to L. +·02 | −·07 |
| Deduced……… | | $1^h\ 34^m\ 45^s{\cdot}245$ | 44° 16′ 29″·25 |

+ 44° 347.

| Plate No. and Date. | | R.A. 1900·0. | Dec. N. 1900·0. |
|---|---|---|---|
| Provisional…… | | $1^h\ 34^m\ 48^s{\cdot}01$ | 44° 30° 48″·4 |
| | 1900. | | |
| 5299 | Dec. 15 | −″·23 | +″·03 |
| 5300 | ,, | −·15 | −·14 |
| 5304 | ,, | −·09 | −·01 |
| 5306 | ,, | −·19 | −·20 |
| 5307 | ,, | −·20 | −·29 |
| 5308 | Dec. 16 | −·18 | −·13 |
| 5309 | Dec. 17 | +·07 | −·14 |
| 5310 | ,, | +·04 | −·28 |
| 5313 | ,, | −·26 | −·13 |
| | | Mean −·13 | −·14 |
| | | Red$^n$. to L. +·04 | −·07 |
| Deduced……… | | $1^h\ 34^m\ 48^s{\cdot}018$ | 44° 30′ 48″·61 |

+ 45° 416.

| Plate No. and Date. | | R.A. 1900·0. | Dec. N. 1900·0. |
|---|---|---|---|
| Provisional…… | | $1^h\ 35^m\ 22^s{\cdot}66$ | 45° 54′ 23″·8 |
| | 1900. | | |
| 5288 | Dec. 13 | +″·03 | +″·04 |
| 5289 | ,, | −·06 | +·01 |
| 5290 | ,, | +·05 | +·04 |
| 5294 | ,, | ·00 | +·19 |
| 5297 | ,, | −·07 | +·08 |
| | | Mean −·01 | +·07 |
| | | Red$^n$. to L. +·04 | −·08 |
| Deduced……… | | $1^h\ 35^m\ 22^s{\cdot}657$ | 45° 54′ 23″·81 |

+ 52° 406.

| Plate No. and Date. | | R.A. 1900·0. | Dec. N. 1900·0. |
|---|---|---|---|
| Provisional…… | | $1^h\ 35^m\ 23^s{\cdot}22$ | $52^h$ 52′ 14″·4 |
| | 1900. | | |
| 5253 | Nov. 22 | +″·28 | +″·18 |
| 5254 | ,, | +·19 | +·23 |
| 5256 | ,, | −·10 | +·32 |
| 5257 | ,, | +·06 | +·22 |
| 5258 | ,, | −·02 | +·26 |
| 5259 | ,, | −·11 | +·17 |
| 5260 | ,, | +·03 | +·16 |
| 5261 | Nov. 23 | +·03 | −·05 |
| 5262 | ,, | +·07 | +·06 |
| 5263 | ,, | −·05 | +·31 |
| 5264 | ,, | −·02 | +·30 |
| 5267 | Nov. 25 | −·05 | −·10 |
| 5268 | ,, | +·15 | +·21 |
| 5269 | ,, | +·05 | +·13 |
| | | Mean +·04 | +·16 |
| | | Red$^n$. to L. −·04 | −·07 |
| Deduced……… | | $1^h\ 35^m\ 23^s{\cdot}220$ | 52° 52′ 14″·31 |

+ 44° 352.

| Plate No. and Date. | | R.A. 1900·0. | Dec. N. 1900·0. |
|---|---|---|---|
| Provisional…… | | $1^h\ 35^m\ 50^s{\cdot}84$ | 45° 4′ 17″·8 |
| | 1900. | | |
| 5299 | Dec. 15 | −″·28 | −″·02 |
| 5300 | ,, | +·04 | −·08 |
| 5304 | ,, | −·20 | +·22 |
| 5306 | ,, | +·09 | −·06 |
| 5307 | ,, | +·14 | −·07 |
| 5308 | Dec. 16 | −·15 | −·27 |
| 5309 | Dec. 17 | −·18 | −·12 |
| 5310 | ,, | −·21 | −·10 |
| 5313 | ,, | −·34 | −·37 |
| | | Mean −·13 | −·12 |
| | | Red$^n$. to L. +·04 | −·07 |
| Deduced……… | | $1^h\ 35^m\ 50^s{\cdot}848$ | 45° 4′ 17″·99 |

+ 42° 351.

| Plate No. and Date. | | R.A. 1900·0. | Dec. N. 1900·0. |
|---|---|---|---|
| Provisional…… | | $1^h\ 35^m\ 58^s{\cdot}00$ | 42° 21′ 32″·0 |
| | 1900. | | |
| 5326 | Dec. 20 | +″·45 | −″·03 |
| | | Red$^n$. to L. +·02 | −·10 |
| Deduced……… | | $1^h\ 35^m\ 57^s{\cdot}958$ | 42° 21′ 32″·13 |

---

* Weight ½ has been given to these results, the star being between 55′ and 60′ from the centre of the plate.

† Not used in forming the mean, the star being more than 60′ from the centre of the plate.

## TABLE VI.—Residuals from Photographs and Deduced Places of Reference Stars.

### + 42° 352.

| Plate No. and Date. | R.A. 1900·0. | Dec. N. 1900·0. |
|---|---|---|
| Provisional...... | 1$^{h}$ 36$^{m}$ 3$^{s}$·70 | 43° 8′ 4″·2 |
| 1900. | | |
| 5314 Dec. 19 | ″·00 | +″·12 |
| 5315 ,, | −·10 | +·11 |
| 5318 ,, | −·04 | +·16 |
| 5319 ,, | −·04 | +·17 |
| 5322 ,, | −·01 | +·18 |
| 5324 ,, | −·13 | +·31 |
| 5326 Dec. 20 | −·30 | +·24 |
| Mean | −·11 | +·20 |
| Red$^{n}$. to L. | ·00 | −·07 |
| Deduced......... | 1$^{h}$ 36$^{m}$ 3$^{s}$·710 | 43° 8′ 4″·07 |

### + 42° 354.

| Plate No. and Date. | R.A. 1900·0. | Dec. N. 1900·0. |
|---|---|---|
| Provisional...... | 1$^{h}$ 36$^{m}$ 15$^{s}$·96 | 42° 30′ 56″·9 |
| 1900. | | |
| 5314 Dec. 19 | +″·33* | −″·62* |
| 5315 ,, | +·09* | −·47* |
| 5316 ,, | +·13* | −·50* |
| 5319 ,, | +·01* | −·39* |
| 5322 ,, | +·32* | −·57* |
| 5324 ,, | +·38* | −·17* |
| 5326 Dec. 20 | +·33 | +·01 |
| Mean | +·26 | −·27 |
| Red$^{n}$. to L. | ·00 | −·08 |
| Deduced......... | 1$^{h}$ 36$^{m}$ 15$^{s}$·937 | 42° 30′ 57″·25 |

### + 45° 422.

| Plate No. and Date. | R.A. 1900·0. | Dec. N. 1900·0. |
|---|---|---|
| Provisional...... | 1$^{h}$ 36$^{m}$ 23$^{s}$·98 | 45° 32 10″·0 |
| 1900. | | |
| 5299 Dec. 15 | +″·34 | +″·12 |
| 5300 ,, | +·45 | +·30 |
| 5304 ,, | +·45 | +·38 |
| 5306 ,, | +·67 | +·41 |
| 5307 ,, | +·83 | +·31 |
| 5308 Dec. 16 | +·46* | +·22* |
| Mean | +·54 | +·30 |
| Red$^{n}$. to L. | +·04 | −·06 |
| Deduced......... | 1$^{h}$ 36$^{m}$ 23$^{s}$·925 | 45° 32′ 9″·76 |

### + 44° 354.

| Plate No. and Date. | R.A. 1900·0. | Dec. N. 1900·0. |
|---|---|---|
| Provisional...... | 1$^{h}$ 37$^{m}$ 11$^{s}$·17 | 44° 49′ 5″·3 |
| 1900. | | |
| 5308 Dec. 16 | −″·36 | −″·10 |
| 5309 Dec. 17 | −·14 | +·10 |
| 5310 ,, | −·39 | −·04 |
| 5313 ,, | −·62 | +·09 |
| Mean | −·37 | ·00 |
| Red$^{n}$. to L. | +·04 | −·07 |
| Deduced......... | 1$^{h}$ 37$^{m}$ 11$^{s}$·200 | 44° 49′ 5″·37 |

### + 52° 420.

| Plate No. and Date. | R.A. 1900·0. | Dec. N. 1900·0. |
|---|---|---|
| Provisional...... | 1$^{h}$ 37$^{m}$ 17$^{s}$·16 | 52° 22′ 54″·2 |
| 1900. | | |
| 5253 Nov. 22 | −″·13 | −″·12 |
| 5254 ,, | −·03 | −·10 |
| 5256 ,, | −·31 | −·18 |
| 5257 ,, | −·46 | −·40 |
| 5258 ,, | −·18 | −·15 |
| 5259 ,, | −·21 | −·18 |
| 5260 ,, | −·06 | −·21 |
| 5261 Nov. 23 | −·07 | +·01 |
| 5262 ,, | −·03 | −·04 |
| 5263 ,, | −·01 | −·21 |
| 5264 ,, | −·19 | −·17 |
| 5267 Nov. 25 | −·38 | −·12 |
| 5268 ,, | −·27 | −·06 |
| 5269 ,, | −·37 | −·09 |
| Mean | −·20 | −·13 |
| Red$^{n}$. to L. | −·04 | −·07 |
| Deduced......... | 1$^{h}$ 37$^{m}$ 17$^{s}$·186 | 52° 22′ 54″·40 |

### + 42° 356.

| Plate No. and Date. | R.A. 1900·0. | Dec. N. 1900·0. |
|---|---|---|
| Provisional...... | 1$^{h}$ 37$^{m}$ 17$^{s}$·38 | 43° 12′ 1″·7 |
| 1900. | | |
| 5314 Dec. 19 | +″·59 | −″·04 |
| 5315 ,, | +·61 | −·04 |
| 5318 ,, | +·33 | +·08 |
| 5319 ,, | +·22 | +·33 |
| 5322 ,, | +·27 | +·05 |
| 5324 ,, | +·06 | +·12 |
| 5326 Dec. 20 | +·35 | +·23 |
| Mean | +·35 | +·12 |
| Red$^{n}$. to L. | ·00 | −·07 |
| Deduced......... | 1$^{h}$ 37$^{m}$ 17$^{s}$·348 | 43° 12′ 1″·65 |

### + 53° 375.

| Plate No. and Date. | R.A. 1900·0. | Dec. N. 1900·0. |
|---|---|---|
| Provisional...... | 1$^{h}$ 37$^{m}$ 25$^{s}$·55 | 53° 26′ 42″·0 |
| 1900. | | |
| 5248 Nov. 18 | −″·30 | +″·02 |
| 5249 ,, | −·44 | +·08 |
| 5250 ,, | −·23 | +·13 |
| 5253 Nov. 22 | −·33 | −·22 |
| 5254 ,, | −·30 | −·02 |
| 5256 ,, | −·22 | −·18 |
| 5257 ,, | −·16 | −·11 |
| 5258 ,, | −·41 | −·24 |
| 5259 ,, | −·29 | +·01 |
| 5260 ,, | −·30 | −·07 |
| 5261 Nov. 23 | −·49* | −·11* |
| 5262 ,, | −·40* | −·11* |
| 5263 ,, | −·26* | −·45* |
| 5264 ,, | −·08* | −·32* |
| Mean | −·30 | −·09 |
| Red$^{n}$. to L. | −·05 | −·07 |
| Deduced......... | 1$^{h}$ 37$^{m}$ 25$^{s}$·589 | 53° 26′ 42″·16 |

### + 54° 368.

| Plate No. and Date. | R.A. 1900·0. | Dec. N. 1900·0. |
|---|---|---|
| Provisional...... | 1$^{h}$ 37$^{m}$ 46$^{s}$·98 | 54° 22′ 59″·8 |
| 1900. | | |
| 5248 Nov. 18 | −″·30 | +″·02 |
| 5249 ,, | −·45 | +·13 |
| 5250 ,, | −·31 | +·21 |
| Mean | −·35 | +·12 |
| Red$^{n}$. to L. | −·06 | −·05 |
| Deduced......... | 1$^{h}$ 37$^{m}$ 47$^{s}$·026 | 54° 22′ 59″·73 |

### + 52° 424.

| Plate No. and Date. | R.A. 1900·0. | Dec. N. 1900·0. |
|---|---|---|
| Provisional...... | 1$^{h}$ 37$^{m}$ 58$^{s}$·52 | 52° 41′ 8″·6 |
| 1900. | | |
| 5253 Nov. 22 | −″·13 | +″·05 |
| 5254 ,, | −·07 | −·05 |
| 5256 ,, | −·04 | +·09 |
| 5257 ,, | −·14 | −·07 |
| 5258 ,, | −·27 | −·06 |
| 5259 ,, | −·14 | +·16 |
| 5260 ,, | −·15 | +·07 |
| 5261 Nov. 23 | −·16 | −·09 |

* Weight ½ has been given to these results, the star being between 55′ and 60′ from the centre of the plate.
† Not used in forming the mean, the star being more than 60′ from the centre of the plate.

## TABLE VI.—Residuals from Photographs and Deduced Places of Reference Stars.

| Plate No. and Date. | R.A. 1900·0. | Dec. N. 1900·0. |
|---|---|---|
| **+ 52° 424.—*contd.*** | | |
| 1900. | ″ | ″ |
| 5262 Nov. 23 | −·39 | +·23 |
| 5263 ” | −·18 | ·00 |
| 5264 ” | −·23 | −·01 |
| Mean | −·18 | +·03 |
| Red$^{n}$. to L. | −·05 | −·08 |
| Deduced......... | $1^{h}\ 37^{m}\ 58^{s}\cdot545$ | 52° 41′ 8″·65 |
| **+ 42° 360.** | | |
| Provisional...... | $1^{h}\ 38^{m}\ 5^{s}\cdot28$ | 42° 44′ 13″·9 |
| 1900. | ″ | ″ |
| 5314 Dec. 19 | −·17 | −·01 |
| 5315 ” | −·21 | −·18 |
| 5318 ” | −·23 | −·26 |
| 5319 ” | −·36 | −·06 |
| 5322 ” | −·33 | −·14 |
| 5324 ” | −·39 | +·07 |
| 5326 Dec. 20 | −·04 | ·00 |
| 5327 Dec. 21 | −·25 | +·32 |
| 5328 ” | −·24 | +·09 |
| 5329 ” | −·34 | +·27 |
| Mean | −·24 | +·03 |
| Red$^{n}$. to L. | ·00 | −·08 |
| Deduced......... | $1^{h}\ 38^{m}\ 5^{s}\cdot301$ | 42° 44′ 13″·95 |
| **+ 42° 361.** | | |
| Provisional...... | $1^{h}\ 38^{m}\ 13^{s}\cdot55$ | 43° 8′ 42″·0 |
| 1900. | ″ | ″ |
| 5314 Dec. 19 | −·18 | +·20 |
| 5315 ” | −·03 | +·15 |
| 5318 ” | −·14 | +·06 |
| 5319 ” | −·24 | +·13 |
| 5322 ” | −·14 | −·05 |
| 5324 ” | −·14 | +·08 |
| 5326 Dec. 20 | +·33 | +·17 |
| 5328 Dec. 21 | (−·31) | (+·45) |
| 5329 ” | (−·13) | (+·64) |
| Mean | −·03 | +·12 |
| Red$^{n}$. to L. | ·00 | −·07 |
| Deduced......... | $1^{h}\ 38^{m}\ 13^{s}\cdot553$ | 43° 8′ 41″·95 |

| Plate No. and Date. | R.A. 1900·0. | Dec. N. 1900·0. |
|---|---|---|
| **+ 52° 433.** | | |
| Provisional...... | $1^{h}\ 39^{m}\ 43^{s}\cdot33$ | 53° 6′ 22″·5 |
| 1900. | ″ | ″ |
| 5248 Nov. 18 | +·18 | +·28 |
| 5249 ” | +·13 | +·19 |
| 5250 ” | −·08 | +·12 |
| 5253 Nov. 22 | +·01 | +·01 |
| 5254 ” | +·11 | −·24 |
| 5256 ” | −·02 | −·07 |
| 5257 ” | +·15 | −·10 |
| 5258 ” | +·11 | +·06 |
| 5259 ” | +·23 | +·02 |
| 5260 ” | +·04 | −·06 |
| 5261 Nov. 23 | −·13* | −·28* |
| 5262 ” | −·04* | −·07* |
| 5263 ” | −·22* | −·15* |
| 5264 ” | −·03* | −·14* |
| Mean | +·04 | ·00 |
| Red$^{n}$. to L. | −·06 | −·06 |
| Deduced......... | $1^{h}\ 39^{m}\ 43^{s}\cdot332$ | 53° 6′ 22″·56 |
| **+ 43° 364.** | | |
| Provisional...... | $1^{h}\ 40^{m}\ 15^{s}\cdot62$ | 44° 8′ 45″·0 |
| 1900. | ″ | ″ |
| 5309 Dec. 17 | −·46† | +·01† |
| 5310 ” | +·01† | −·01† |
| 5313 ” | −·03† | +·13† |
| 5314 Dec. 19 | −·25 | +·20 |
| 5315 ” | +·10 | −·17 |
| 5318 ” | −·05 | −·02 |
| 5319 ” | +·11 | −·30 |
| 5322 ” | ·00 | +·03 |
| 5324 ” | −·10 | −·32 |
| Mean | −·03 | −·10 |
| Red$^{n}$. to L. | −·01 | −·06 |
| Deduced......... | $1^{h}\ 40^{m}\ 15^{s}\cdot623$ | 44° 8′ 45″·16 |
| **+ 42° 370.** | | |
| Provisional...... | $1^{h}\ 40^{m}\ 16^{s}\cdot73$ | 43° 12′ 16″·9 |
| 1900. | ″ | ″ |
| 5314 Dec. 19 | −·20 | −·11 |
| 5315 ” | −·32 | −·14 |
| 5318 ” | −·29 | +·09 |
| 5319 ” | −·53 | +·25 |
| 5322 ” | −·48 | −·03 |

| Plate No. and Date. | R.A. 1900·0. | Dec. N. 1900·0. |
|---|---|---|
| **+ 42° 370—*contd.*** | | |
| 1900. | ″ | ″ |
| 5324 Dec. 19 | −·42 | +·23 |
| 5326 Dec. 20 | −·65 | −·06 |
| 5327 Dec. 21 | −·18 | −·07 |
| 5328 ” | −·32 | −·16 |
| 5329 ” | −·32 | −·14 |
| Mean | −·38 | −·03 |
| Red$^{n}$. to L. | −·01 | −·07 |
| Deduced......... | $1^{h}\ 40^{m}\ 16^{s}\cdot765$ | 43° 12′ 17″·00 |
| **+ 41° 342.** | | |
| Provisional...... | $1^{h}\ 41^{m}\ 11^{s}\cdot29$ | 41° 41′ 38″·1 |
| 1900. | ″ | ″ |
| 5327 Dec. 21 | −·10 | +·20 |
| 5328 ” | −·12 | +·18 |
| 5329 ” | +·04 | +·02 |
| 5330 Dec. 24 | −·21 | −·12 |
| Mean | −·11 | +·05 |
| Red$^{n}$. to L. | ·00 | −·08 |
| Deduced......... | $1^{h}\ 41^{m}\ 11^{s}\cdot300$ | 41° 41′ 38″·13 |
| **+ 42° 373.** | | |
| Provisional...... | $1^{h}\ 41^{m}\ 25^{s}\cdot37$ | 42° 34′ 50″·5 |
| 1900. | ″ | ″ |
| 5326 Dec. 20 | −·64 | −·22 |
| 5327 Dec. 21 | −·60 | −·12 |
| 5328 ” | −·66 | −·06 |
| 5329 ” | −·58 | −·14 |
| Mean | −·62 | −·15 |
| Red$^{n}$. to L. | ·00 | −·10 |
| Deduced......... | $1^{h}\ 41^{m}\ 25^{s}\cdot425$ | 42° 34′ 50″·75 |
| **+ 53° 388.** | | |
| Provisional...... | $1^{h}\ 41^{m}\ 35^{s}\cdot26$ | 53° 23′ 25″·3 |
| 1900. | ″ | ″ |
| 5248 Nov. 18 | +·20 | +·07 |
| 5249 ” | +·29 | +·11 |
| 5250 ” | +·25 | −·19 |
| Mean | +·25 | ·00 |
| Red$^{n}$. to L. | −·07 | −·05 |
| Deduced......... | $1^{h}\ 41^{m}\ 35^{s}\cdot240$ | 53° 23′ 25″·35 |

* Weight ½ has been given to these results, the star being between 55′ and 60′ from the centre of the plate.

† Not used in forming the mean, the star being more than 60′ from the centre of the plate.

Table VI.—Residuals from Photographs and Deduced Places of Reference Stars.

| Plate No. and Date. | R.A. 1900·0. | Dec. N. 1900·0. |
|---|---|---|
| + 41° 347. | | |
| Provisional...... | 1$^{h}$ 41$^{m}$ 45$^{s}$·12 | 41° 55′ 23″·7 |
| 1900. | | |
| 5327 Dec. 21 | +″·09 | −″·01 |
| 5328 „ | +·12 | +·17 |
| 5329 „ | +·22 | +·06 |
| 5330 Dec. 24 | +·04* | −·09* |
| | Mean +·12 | +·04 |
| | Red$^{n}$. to L. −·01 | −·08 |
| Deduced......... | 1$^{h}$ 41$^{m}$ 45$^{s}$·110 | 41° 55′ 23″·74 |
| + 52° 441. | | |
| Provisional...... | 1$^{h}$ 41$^{m}$ 53$^{s}$·01 | 52° 44′ 58″·8 |
| 1900. | | |
| 5248 Nov. 18 | −″·22 | −″·32 |
| 5249 „ | −·30 | −·39 |
| 5250 „ | −·27 | −·18 |
| | Mean −·26 | −·30 |
| | Red$^{n}$. to L. −·06 | −·05 |
| Deduced......... | 1$^{h}$ 41$^{m}$ 53$^{s}$·045 | 52° 44′ 59″·15 |
| + 42° 375. | | |
| Provisional...... | 1$^{h}$ 41$^{m}$ 55$^{s}$·68 | 42° 42′ 44″·0 |
| 1900. | | |
| 5326 Dec. 20 | +″·23 | −″·25 |
| 5327 Dec. 21 | +·02 | −·14 |
| 5328 „ | −·13 | −·11 |
| 5329 „ | −·11 | −·27 |
| | Mean +·03 | −·20 |
| | Red$^{n}$. to L. ·00 | −·09 |
| Deduced......... | 1$^{h}$ 41$^{m}$ 55$^{s}$·677 | 42° 42′ 44″·29 |
| + 54° 383. | | |
| Provisional...... | 1$^{h}$ 42$^{m}$ 39$^{s}$·69 | 54° 38′ 37″·7 |
| 1900. | | |
| 5248 Nov. 18 | +″·16 | −″·68 |
| 5249 „ | +·27 | −·63 |
| 5250 „ | +·13 | −·47 |
| | Mean +·19 | −·59 |
| | Red$^{n}$. to L. −·07 | −·05 |
| Deduced......... | 1$^{h}$ 42$^{m}$ 39$^{s}$·676 | 54° 38′ 38″·34 |
| + 41° 352. | | |
| Provisional...... | 1$^{h}$ 42$^{m}$ 55$^{s}$·49 | 42° 12′ 33″·9 |
| 1900. | | |
| 5327 Dec. 21 | +″·15 | −″·06 |
| 5328 „ | +·18 | −·15 |
| 5329 „ | +·25 | ·00 |
| 5330 Dec. 24 | +·33† | −·28† |
| | Mean +·19 | −·07 |
| | Red$^{n}$. to L. ·00 | −·08 |
| Deduced......... | 1$^{h}$ 42$^{m}$ 55$^{s}$·473 | 42° 12 34″·05 |
| + 53° 395. | | |
| Provisional...... | 1$^{h}$ 43$^{m}$ 10$^{s}$·98 | 53° 25′ 1″·0 |
| 1900. | | |
| 5239 Nov. 15 | +″·10 | −″·11 |
| 5240 „ | +·33 | −·06 |
| 5241 „ | +·08 | +·02 |
| 5242 „ | +·25 | +·06 |
| 5243 „ | +·25 | +·27 |
| 5248 Nov. 18 | +·21 | +·21 |
| 5249 „ | +·20 | +·14 |
| 5250 „ | +·31 | +·16 |
| | Mean +·22 | +·09 |
| | Red$^{n}$. to L. −·06 | −·03 |
| Deduced......... | 1$^{h}$ 43$^{m}$ 10$^{s}$·962 | 53° 25′ 0″·94 |
| + 43° 373. | | |
| Provisional...... | 1$^{h}$ 43$^{m}$ 11$^{s}$·22 | 43° 14′ 14″·9 |
| 1900. | | |
| 5326 Dec. 20 | −″·04 | −″·12 |
| 5327 Dec. 21 | −·09 | −·02 |
| 5328 „ | +·02 | +·09 |
| 5329 „ | +·05 | −·08 |
| | Mean −·02 | −·04 |
| | Red$^{n}$. to L. ·00 | −·09 |
| Deduced......... | 1$^{h}$ 43$^{m}$ 11$^{s}$·222 | 43° 14′ 15″·03 |
| + 41° 353. | | |
| Provisional...... | 1$^{h}$ 43$^{m}$ 14$^{s}$·31 | 41° 29′ 28″·9 |
| 1900. | | |
| 5330 Dec. 24 | −″·19 | +″·16 |
| | Red$^{n}$. to L. ·00 | −·06 |
| Deduced......... | 1$^{h}$ 43$^{m}$ 14$^{s}$·327 | 41° 29′ 28″·80 |
| + 54° 388. | | |
| Provisional...... | 1$^{h}$ 43$^{m}$ 57$^{s}$·65 | 54° 43′ 14″·4 |
| 1900. | | |
| 5237 Nov. 14 | −″·03* | −″·10* |
| 5238 „ | −·17* | −·13* |
| 5239 Nov. 15 | −·14 | −·23 |
| 5240 „ | −·18 | −·08 |
| 5241 „ | −·29 | −·24 |
| 5242 „ | −·05 | −·33 |
| 5243 „ | +·03 | −·27 |
| | Mean −·12 | −·20 |
| | Red$^{n}$. to L. −·06 | −·01 |
| Deduced......... | 1$^{h}$ 43$^{m}$ 57$^{s}$·670 | 54° 43′ 14″·61 |
| + 53° 398. | | |
| Provisional...... | 1$^{h}$ 44$^{m}$ 0$^{s}$·49 | 53° 14′ 45″·6 |
| 1900. | | |
| 5248 Nov. 18 | −″·04 | +″·18 |
| 5249 „ | −·10 | +·17 |
| 5250 „ | ·00 | +·05 |
| | Mean −·05 | +·13 |
| | Red$^{n}$. to L. −·07 | −·05 |
| Deduced......... | 1$^{h}$ 44$^{m}$ 0$^{s}$·503 | 53° 14′ 45″·52 |
| + 54° 392. | | |
| Provisional...... | 1$^{h}$ 44$^{m}$ 42$^{s}$·20 | 54° 54′ 37″·5 |
| 1900. | | |
| 5237 Nov. 14 | −″·08 | +″·01 |
| 5238 „ | −·06 | −·14 |
| | Mean −·07 | −·07 |
| | Red$^{n}$. to L. −·06 | −·01 |
| Deduced......... | 1$^{h}$ 44$^{m}$ 42$^{s}$·215 | 54° 54′ 37″·58 |

* Weight ½ has been given to these results, the star being between 55′ and 60′ from the centre of the plate.
† Not used in forming the mean, the star being more than 60′ from the centre of the plate.

TABLE VI.—Residuals from Photographs and Deduced Places of Reference Stars.

| Plate No. and Date. | R.A. 1900·0. | Dec. N. 1900·0. |
|---|---|---|
| | + 54° 393. | |
| Provisional...... | 1$^{h}$ 44$^{m}$ 53$^{s}$·51 | 54° 25′ 44″·7 |
| 1900. | | |
| 5230 Nov. 13 | +″·02 | −″·08 |
| 5231 ,, | +·02 | −·01 |
| 5232 ,, | +·18 | −·24 |
| 5234 ,, | −·26 | +·14 |
| 5235 ,, | −·25 | ·00 |
| 5236 ,, | −·20 | −·07 |
| 5237 Nov. 14 | −·02 | −·12 |
| 5238 ,, | +·04 | +·09 |
| 5239 Nov. 15 | +·12 | −·10 |
| 5240 ,, | (+·58) | −·01 |
| 5241 ,, | +·04 | ·00 |
| 5242 ,, | −·20 | +·10 |
| 5243 ,, | −·15 | −·11 |
| 5248 Nov. 18 | +·09* | −·18* |
| 5249 ,, | +·25* | −·11* |
| 5250 ,, | −·03* | +·04* |
| Mean | −·03 | −·04 |
| Red$^{n}$. to L. | −·06 | −·02 |
| Deduced......... | 1$^{h}$ 44$^{m}$ 53$^{s}$·520 | 54° 25′ 44″·76 |
| | + 42° 388. | |
| Provisional...... | 1$^{h}$ 45$^{m}$ 3$^{s}$·10 | 43° 1′ 46″·3 |
| 1900. | | |
| 5327 Dec. 21 | +″·30 | +″·05 |
| 5328 ,, | +·13 | +·01 |
| 5329 ,, | +·01 | +·12 |
| Mean | +·15 | +·06 |
| Red$^{n}$. to L. | −·01 | −·09 |
| Deduced......... | 1$^{h}$ 45$^{m}$ 3$^{s}$·087 | 43° 1′ 46″·33 |
| | + 53° 402. | |
| Provisional...... | 1$^{h}$ 45$^{m}$ 11$^{s}$·65 | 53° 22′ 19″·4 |
| 1900. | | |
| 5237 Nov. 14 | −″·05 | +″·24 |
| 5238 ,, | −·01 | +·05 |
| 5239 Nov. 15 | −·19 | +·34 |
| 5240 ,, | −·16 | +·07 |
| 5241 ,, | −·02 | +·21 |
| 5242 ,, | +·10 | +·09 |
| 5243 ,, | −·02 | +·06 |
| | + 53° 402—*contd.* | |
| 1900. | | |
| 5248 Nov. 18 | ″·00 | +″·36 |
| 5249 ,, | +·19 | +·31 |
| 5250 ,, | +·26 | +·16 |
| Mean | +·02 | +·19 |
| Red$^{n}$. to L. | −·06 | −·02 |
| Deduced......... | 1$^{h}$ 45$^{m}$ 11$^{s}$·655 | 53° 22′ 19″·23 |
| | + 42° 390. | |
| Provisional...... | 1$^{h}$ 45$^{m}$ 21$^{s}$·83 | 42° 16′ 6″·8 |
| 1900. | | |
| 5327 Dec. 21 | +″·13 | +″·04 |
| 5328 ,, | +·29 | +·08 |
| 5329 ,, | +·19 | +·03 |
| 5330 Dec. 24 | +·10* | −·03* |
| Mean | +·18 | +·03 |
| Red$^{n}$. to L. | −·01 | −·08 |
| Deduced......... | 1$^{h}$ 45$^{m}$ 21$^{s}$·815 | 42° 16′ 6″·85 |
| | + 40° 384. | |
| Provisional...... | 1$^{h}$ 45$^{m}$ 37$^{s}$·35 | 40° 57′ 32″·0 |
| 1900. | | |
| 5330 Dec. 24 | +″·36 | +″·02 |
| Red$^{n}$. to L. | ·00 | −·06 |
| Deduced......... | 1$^{h}$ 45$^{m}$ 37$^{s}$·319 | 40° 57′ 32″·04 |
| | + 39° 421. | |
| Provisional...... | 1$^{h}$ 46$^{m}$ 25$^{s}$·48 | 40° 3′ 10″·9 |
| 1900. | | |
| 5331 Dec. 26 | +″·56 | −″·05 |
| Red$^{n}$. to L. | ·00 | −·04 |
| Deduced......... | 1$^{h}$ 46$^{m}$ 25$^{s}$·431 | 40° 3′ 10″·99 |
| | + 41° 362. | |
| Provisional...... | 1$^{h}$ 46$^{m}$ 43$^{s}$·17 | 41° 20′ 51″·6 |
| 1900. | | |
| 5330 Dec. 24 | −″·26 | +″·21 |
| Red$^{n}$. to L. | ·00 | −·06 |
| Deduced......... | 1$^{h}$ 46$^{m}$ 43$^{s}$·193 | 41° 20′ 51″·45 |
| | + 40° 390. | |
| Provisional...... | 1$^{h}$ 46$^{m}$ 49$^{s}$·09 | 40° 59′ 27″·4 |
| 1900. | | |
| 5330 Dec. 24 | −″·12 | +″·27 |
| 5331 Dec. 26 | +·39 | −·05 |
| Mean | +·14 | +·11 |
| Red$^{n}$. to L. | ·00 | −·05 |
| Deduced......... | 1$^{h}$ 46$^{m}$ 49$^{s}$·078 | 40° 59′ 27″·34 |
| | + 41° 364. | |
| Provisional...... | 1$^{h}$ 47$^{m}$ 10$^{s}$·15 | 42° 2′ 16″·0 |
| 1900. | | |
| 5327 Dec. 21 | + ″·58† | −″·19† |
| 5328 ,, | +1·05† | −·61† |
| 5329 ,, | + ·75† | −·52† |
| 5330 Dec. 24 | + ·21 | −·17 |
| Mean | + ·21 | −·17 |
| Red$^{n}$. to L. | ·00 | −·06 |
| Deduced......... | 1$^{h}$ 47$^{m}$ 10$^{s}$·131 | 42° 2′ 16″·23 |
| | + 40° 394. | |
| Provisional...... | 1$^{h}$ 47$^{m}$ 17$^{s}$·33 | 40° 14′ 11″·1 |
| 1900. | | |
| 5331 Dec. 26 | −″·57 | +″·08 |
| Red$^{n}$. to L. | ·00 | −·04 |
| Deduced......... | 1$^{h}$ 47$^{m}$ 17$^{s}$·380 | 40° 14′ 11″·06 |

* Weight ½ has been given to these results, the star being between 55′ and 60′ from the centre of the plate.

† Not used in forming the mean, the star being more than 60′ from the centre of the plate.

## TABLE VI.—Residuals from Photographs and Deduced Places of Reference Stars.

**+ 53° 416.**

| Plate No. and Date. | R.A. 1900·0. | Dec. N. 1900·0. |
|---|---|---|
| Provisional...... | 1$^h$ 48$^m$ 7$^s$·41 | 53° 23′ 58″·9 |
| 1900. | | |
| 5230 Nov. 13 | −″·11 | +″·01 |
| 5231 ,, | −·12 | +·06 |
| 5232 ,, | −·22 | +·02 |
| 5234 ,, | −·02 | +·08 |
| 5235 ,, | −·15 | +·05 |
| 5236 ,, | −·11 | +·19 |
| 5237 Nov. 14 | −·21 | +·02 |
| 5238 ,, | −·10 | +·01 |
| 5239 Nov. 15 | −·10 | ·00 |
| 5240 ,, | −·20 | +·16 |
| 5241 ,, | −·01 | ·00 |
| 5242 ,, | −·34 | −·17 |
| 5243 ,, | −·23 | −·18 |
| Mean | −·15 | +·02 |
| Red$^n$. to L. | −·06 | −·01 |
| Deduced......... | 1$^h$ 48$^m$ 7$^s$·433 | 53° 23′ 58″·89 |

**+ 54° 413.**

| Plate No. and Date. | R.A. 1900·0. | Dec. N. 1900·0. |
|---|---|---|
| Provisional...... | 1$^h$ 48$^m$ 13$^s$·17 | 54° 14′ 10″·7 |
| 1900. | | |
| 5226 Nov. 11 | −″·17* | −″·13* |
| 5227 ,, | −·20* | −·10* |
| 5228 ,, | −·44* | −·21* |
| 5229 ,, | −·07* | +·03* |
| 5230 Nov. 13 | −·11 | +·08 |
| 5231 ,, | +·06 | −·01 |
| 5232 ,, | −·04 | −·08 |
| 5234 ,, | +·04 | −·05 |
| 5235 ,, | +·25 | +·01 |
| 5236 ,, | +·07 | +·03 |
| 5237 Nov. 14 | +·07 | +·02 |
| 5238 ,, | +·10 | −·10 |
| 5239 Nov. 15 | ·00 | −·14 |
| 5240 ,, | +·05 | −·15 |
| 5241 ,, | +·07 | −·21 |
| 5242 ,, | +·27 | −·03 |
| 5243 ,, | +·03 | ·00 |
| Mean | +·03 | −·07 |
| Red$^n$. to L. | −·06 | −·01 |
| Deduced......... | 1$^h$ 48$^m$ 13$^s$·173 | 54° 14′ 10″·78 |

**+ 53° 419**

| Plate No. and Date. | R.A. 1900·0. | Dec. N. 1900·0. |
|---|---|---|
| Provisional...... | 1$^h$ 48$^m$ 25$^s$·78 | 53° 41′ 49″·2 |
| 1900. | | |
| 5226 Nov. 11 | −″·35† | −″·15† |
| 5227 ,, | −·45† | −·41† |
| 5228 ,, | −·43† | −·46† |
| 5229 ,, | −·09† | ·00† |
| 5230 Nov. 13 | −·07 | +·02 |
| 5231 ,, | −·12 | −·11 |
| 5232 ,, | −·18 | −·02 |
| 5234 ,, | −·15 | +·04 |
| 5235 ,, | −·06 | +·13 |
| 5236 ,, | +·12 | +·17 |
| 5237 Nov. 14 | −·14 | +·04 |
| 5238 ,, | −·17 | +·08 |
| 5239 Nov. 15 | +·03 | +·03 |
| 5240 ,, | −·13 | +·05 |
| 5241 ,, | −·06 | −·01 |
| 5242 ,, | −·16 | −·05 |
| 5243 ,, | −·08 | −·11 |
| Mean | −·10 | +·02 |
| Red$^n$. to L. | −·06 | −·01 |
| Deduced......... | 1$^h$ 48$^m$ 25$^s$·798 | 53° 41′ 49″·19 |

**+ 40° 400.**

| Plate No. and Date. | R.A. 1900·0. | Dec. N. 1900·0. |
|---|---|---|
| Provisional...... | 1$^h$ 48$^m$ 27$^s$·43 | 40° 23′ 51″·7 |
| 1900. | | |
| 5330 Dec. 24 | +″·03† | −″·37† |
| 5331 Dec. 26 | +·20 | −·06 |
| Mean | +·20 | −·06 |
| Red$^n$. to L. | ·00 | −·04 |
| Deduced......... | 1$^h$ 47$^m$ 27$^s$·413 | 40° 23′ 51″·80 |

**+ 40° 401.**

| Plate No. and Date. | R.A. 1900·0. | Dec. N. 1900·0. |
|---|---|---|
| Provisional...... | 1$^h$ 48$^m$ 38$^s$·95 | 41° 8′ 58″·0 |
| 1900. | | |
| 5330 Dec. 24 | +″·21 | +″·27 |
| 5331 Dec. 26 | +·50 | +·21 |
| Mean | +·36 | +·24 |
| Red$^n$. to L. | ·00 | −·05 |
| Deduced......... | 1$^h$ 48$^m$ 38$^s$·918 | 41° 8′ 57″·81 |

**+ 39° 434.**

| Plate No. and Date. | R.A. 1900·0. | Dec. N. 1900·0. |
|---|---|---|
| Provisional...... | 1$^h$ 48$^m$ 52$^s$·63 | 40° 12′ 43″·8 |
| 1900. | | |
| 5331 Dec. 26 | −″·38 | −″·19 |
| 5333 Dec. 28 | −·05† | ·00† |
| 5334 ,, | −·55† | +·45† |
| 5335 ,, | −·70† | +·37† |
| 5336 ,, | −·33† | +·22† |
| Mean | −·38 | −·19 |
| Red$^n$. to L. | ·00 | −·01 |
| Deduced......... | 1$^h$ 48$^m$ 52$^s$·663 | 40° 12′ 44″·00 |

**+ 41° 374.**

| Plate No. and Date. | R.A. 1900·0. | Dec. N. 1900·0. |
|---|---|---|
| Provisional...... | 1$^h$ 50$^m$ 28$^s$·41 | 41° 24′ 8″·4 |
| 1900. | | |
| 5330 Dec. 24 | −″·45 | +″·12 |
| Red$^n$. to L. | ·00 | −·06 |
| Deduced......... | 1$^h$ 50$^m$ 28$^s$·450 | 41° 24′ 8″·34 |

**+ 41° 377.**

| Plate No. and Date. | R.A. 1900·0. | Dec. N. 1900·0. |
|---|---|---|
| Provisional...... | 1$^h$ 51$^m$ 9$^s$·56 | 41° 16′ 37″·8 |
| 1900. | | |
| 5331 Dec. 26 | −″·27 | −″·28 |
| Red$^n$. to L. | ·00 | −·04 |
| Deduced......... | 1$^h$ 51$^m$ 9$^s$·584 | 41° 16′ 38″·12 |

**+ 54° 424.**

| Plate No. and Date. | R.A. 1900·0. | Dec. N. 1900·0. |
|---|---|---|
| Provisional...... | 1$^h$ 51$^m$ 12$^s$·93 | 54° 52′ 53″·3 |
| 1900. | | |
| 5218 Nov. 10 | +″·27† | +″·07† |
| 5219 ,, | +·01† | +·14† |
| 5220 ,, | +·05† | +·17† |
| 5222 ,, | +·33† | +·19† |
| 5223 ,, | +·04† | +·28† |
| 5226 Nov. 11 | +·19 | +·05 |
| 5227 ,, | +·34 | +·15 |
| 5228 ,, | +·21 | +·19 |
| 5229 ,, | +·45 | −·07 |

* Weight ½ has been given to these results, the star being between 55′ and 60′ from the centre of the plate.
† Not used in forming the mean, the star being more than 60′ from the centre of the plate.

TABLE VI.—Residuals from Photographs and Deduced Places of Reference Stars.

+ 54° 424—*contd.*

| Plate No. and Date. | R.A. 1900·0. | Dec. N. 1900·0. |
|---|---|---|
| 1900. | | |
| 5230 Nov. 13 | +″·10 | +″·18 |
| 5231 „ | +·06 | +·17 |
| 5232 „ | +·15 | +·16 |
| 5234 „ | +·17 | +·09 |
| 5235 „ | +·12 | ·00 |
| 5236 „ | +·13 | −·03 |
| 5237 Nov. 14 | +·09 | +·02 |
| 5238 „ | +·20 | +·09 |
| Mean | +·19 | +·08 |
| Red$^n$. to L. | −·06 | −·01 |
| Deduced……… | $1^h\ 51^m\ 12^s{\cdot}915$ | 54° 52′ 53″·23 |

+ 40° 406.

| Plate No. and Date. | R.A. 1900·0. | Dec. N. 1900·0. |
|---|---|---|
| Provisional…… | $1^h\ 51^m\ 13^s{\cdot}90$ | 40° 16′ 19″·2 |
| 1900. | | |
| 5331 Dec. 26 | +″·18 | +″·23 |
| 5333 Dec. 28 | (+·67) | (−·15) |
| 5334 „ | +·24 | +·10 |
| 5335 „ | +·22 | −·02 |
| 5336 „ | +·19 | +·01 |
| Mean | +·21 | +·10 |
| Red$^n$. to L. | ·00 | −·05 |
| Deduced……… | $1^h\ 51^m\ 13^s{\cdot}882$ | 40° 16′ 19″·15 |

+ 53° 428.

| Plate No. and Date. | R.A. 1900·0. | Dec. N. 1900·0. |
|---|---|---|
| Provisional…… | $1^h\ 51^m\ 36^s{\cdot}40$ | 54° 7′ 12″·8 |
| 1900. | | |
| 5218 Nov. 10 | −″·30 | +″·11 |
| 5219 „ | −·21 | +·01 |
| 5220 „ | −·18 | +·10 |
| 5222 „ | +·14 | +·53 |
| 5223 „ | −·07 | +·32 |
| 5226 Nov. 11 | −·09 | +·06 |
| 5227 „ | −·05 | +·06 |
| 5228 „ | +·02 | −·01 |
| 5229 „ | +·04 | +·51 |
| 5230 Nov. 13 | −·07 | +·14 |
| 5231 „ | −·10 | +·08 |
| 5232 „ | −·11 | +·22 |
| 5234 „ | ·00 | +·25 |
| 5235 „ | +·13 | +·18 |
| 5236 „ | −·10 | +·19 |
| 5237 Nov. 14 | −·06 | +·33 |
| 5238 „ | +·11 | +·25 |

+ 53° 428—*contd.*

| Plate No. and Date. | R.A. 1900·0. | Dec. N. 1900·0. |
|---|---|---|
| 1900. | | |
| 5239 Nov. 15 | +″·21 | +″·18 |
| 5240 „ | −·26 | +·04 |
| 5241 „ | +·19 | +·24 |
| 5242 „ | +·13 | +·32 |
| 5243 „ | +·17 | +·37 |
| Mean | −·02 | +·21 |
| Red$^n$. to L. | −·06 | −·01 |
| Deduced……… | $1^h\ 51^m\ 36^s{\cdot}409$ | 54° 7′ 12″·60 |

+ 54° 429.

| Plate No. and Date. | R.A. 1900·0. | Dec. N. 1900·0. |
|---|---|---|
| Provisional…… | $1^h\ 52^m\ 10^s{\cdot}13$ | 55° 5′ 40″·4 |
| 1900. | | |
| 5218 Nov. 10 | −″·11* | +″·19* |
| 5219 „ | −·05* | +·25* |
| 5220 „ | −·15* | +·18* |
| 5222 „ | +·09* | −·27* |
| 5223 „ | −·08* | +·15* |
| 5226 Nov. 11 | −·07 | +·27 |
| 5227 „ | −·01 | +·37 |
| 5228 „ | −·30 | +·38 |
| 5229 „ | −·03 | −·11 |
| 5230 Nov. 13 | −·15 | +·04 |
| 5231 „ | −·28 | +·15 |
| 5232 „ | −·10 | +·09 |
| 5234 „ | −·26 | +·01 |
| 5235 „ | −·32 | ·00 |
| 5236 „ | −·16 | +·01 |
| Mean | −·14 | +·13 |
| Red$^n$. to L. | −·06 | −·01 |
| Deduced……… | $1^h\ 52^m\ 10^s{\cdot}153$ | 55° 5′ 40″·28 |

+ 40° 412.

| Plate No. and Date. | R.A. 1900·0. | Dec. N. 1900·0. |
|---|---|---|
| Provisional…… | $1^h\ 52^m\ 20^s{\cdot}66$ | 40° 25′ 34″·2 |
| 1900. | | |
| 5331 Dec. 26 | −″·13 | +″·05 |
| 5333 Dec. 28 | −·08 | −·11 |
| 5334 „ | +·10 | −·11 |
| 5335 „ | −·05 | +·09 |
| 5336 „ | −·15 | −·01 |
| Mean | −·07 | −·01 |
| Red$^n$. to L. | ·00 | −·05 |
| Deduced……… | $1^h\ 52^m\ 20^s{\cdot}666$ | 40° 25′ 34″·26 |

+ 39° 447.

| Plate No. and Date. | R.A. 1900·0. | Dec. N. 1900·0. |
|---|---|---|
| Provisional…… | $1^h\ 52^m\ 22^s{\cdot}22$ | 40° 3′ 3″·6 |
| 1900. | | |
| 5331 Dec. 26 | +″·19 | +″·05 |
| 5333 Dec. 28 | +·28 | +·11 |
| 5334 „ | +·20 | +·04 |
| 5335 „ | +·26 | +·05 |
| 5336 „ | +·25 | +·09 |
| 5337 Dec. 29 | +·34† | +·01† |
| 5338 „ | +·28† | −·05† |
| Mean | +·23 | +·06 |
| Red$^n$. to L. | ·00 | −·05 |
| Deduced……… | $1^h\ 52^m\ 22^s{\cdot}200$ | 40° 3′ 3″·59 |

+ 39° 448.

| Plate No. and Date. | R.A. 1900·0. | Dec. N. 1900·0. |
|---|---|---|
| Provisional…… | $1^h\ 53^m\ 36^s{\cdot}22$ | 40° 4′ 42″·7 |
| 1900. | | |
| 5331 Dec. 26 | +″·02 | +″·01 |
| 5333 Dec. 28 | −·24 | +·16 |
| 5334 „ | −·03 | +·02 |
| 5335 „ | +·13 | +·15 |
| 5336 „ | +·12 | +·19 |
| 5337 Dec. 29 | −·19† | +·31† |
| 5338 „ | −·01† | +·39† |
| Mean | ·00 | +·10 |
| Red$^n$. to L. | ·00 | −·05 |
| Deduced……… | $1^h\ 53^m\ 36^s{\cdot}220$ | 40° 4′ 42″·65 |

+ 40° 415.

| Plate No. and Date. | R.A. 1900·0. | Dec. N. 1900·0. |
|---|---|---|
| Provisional…… | $1^h\ 53^m\ 39^s{\cdot}20$ | 40° 51′ 51″·0 |
| 1900. | | |
| 5331 Dec. 26 | −″·44 | +″·04 |
| Red$^n$. to L. | ·00 | −·04 |
| Deduced……… | $1^h\ 53^m\ 39^s{\cdot}238$ | 40° 51′ 51″·00 |

* Weight ½ has been given to these results, the star being between 55′ and 60′ from the centre of the plate.
† Not used in forming the mean, the star being more than 60′ from the centre of the plate.

TABLE VI.—Residuals from Photographs and Deduced Places of Reference Stars.

| Plate No. and Date. | R.A. 1900·0. | Dec. N. 1900·0. |
|---|---|---|
| **+ 37° 452.** | | |
| Provisional...... | $1^{h}$ $54^{m}$ $18^{s}$·52 | 38° 6′ 44″·9 |
| 1900. | | |
| 5337 Dec. 29 | +″·08 | +″·17 |
| 5338 ” | −·06 | +·32 |
| Mean | +·01 | +·25 |
| Red$^{n}$. to L. | −·03 | −·06 |
| Deduced......... | $1^{h}$ $54^{m}$ $18^{s}$·522 | 38° 6′ 44″·71 |
| **+ 39° 450.** | | |
| Provisional...... | $1^{h}$ $54^{m}$ $28^{s}$·70 | 39° 28′ 55″·2 |
| 1900. | | |
| 5333 Dec. 28 | −″·22 | −″·14 |
| 5334 ” | −·27 | −·10 |
| 5335 ” | −·17 | −·31 |
| 5336 ” | −·05 | −·18 |
| 5337 Dec. 29 | −·01 | −·23 |
| 5338 ” | +·16 | −·37 |
| Mean | −·08 | −·23 |
| Red$^{n}$. to L. | −·01 | −·06 |
| Deduced......... | $1^{h}$ $54^{m}$ $28^{s}$·708 | 39° 28′ 55″·49 |
| **+ 38° 392.** | | |
| Provisional...... | $1^{h}$ $54^{m}$ $46^{s}$·78 | 39° 8′ 29″·7 |
| 1900. | | |
| 5333 Dec. 28 | −″·28 | +″·10 |
| 5334 ” | −·43 | −·05 |
| 5335 ” | −·30 | −·15 |
| 5336 ” | −·14 | −·21 |
| 5337 Dec. 29 | −·02 | −·21 |
| 5338 ” | −·04 | +·14 |
| Mean | −·19 | −·07 |
| Red$^{n}$. to L. | ·00 | −·05 |
| Deduced......... | $1^{h}$ $54^{m}$ $46^{s}$·796 | 39° 8′ 29″·82 |
| **+ 53° 437.** | | |
| Provisional...... | $1^{h}$ $55^{m}$ $22^{s}$·66 | 53° 32′ 1″·0 |
| 1900. | | |
| 5212 Nov. 9 | +″·08* | −″·12* |
| 5213 ” | +·20* | −·22* |
| 5214 ” | +·41* | −·07* |
| 5215 ” | +·06* | +·10* |
| 5216 ” | +·63* | +·02* |
| 5217 ” | +·48* | +·01* |
| 5218 Nov. 10 | +·26 | −·18 |
| 5219 ” | +·40 | −·22 |
| 5220 ” | +·35 | −·20 |
| 5222 ” | +·49 | −·15 |
| 5223 ” | +·34 | −·14 |
| 5226 Nov. 11 | +·57 | −·17 |
| 5227 ” | +·50 | −·27 |
| 5228 ” | +·64 | −·22 |
| 5229 ” | +·43 | −·04 |
| 5230 Nov. 13 | +·39* | −·29* |
| 5231 ” | +·47* | −·33* |
| 5232 ” | +·34* | −·23* |
| 5234 ” | +·44* | −·32* |
| 5235 ” | +·32* | −·35* |
| 5236 ” | +·41* | −·38* |
| 5237 Nov. 14 | +·45† | −·38† |
| 5238 ” | +·17† | −·17† |
| Mean | +·30 | −·13 |
| Red$^{n}$. to L. | −·06 | −·02 |
| Deduced......... | $1^{h}$ $55^{m}$ $22^{s}$·633 | 53° 32′ 1″·15 |
| **+ 53° 439.** | | |
| Provisional...... | $1^{h}$ $55^{m}$ $38^{s}$·33 | 54° 0′ 15″·3 |
| 1900. | | |
| 5218 Nov. 10 | +″·09 | +″·05 |
| Red$^{n}$. to L. | −·06 | −·03 |
| Deduced......... | $1^{h}$ $55^{m}$ $38^{s}$·327 | 54° 0′ 15″·28 |
| **+ 39° 454.** | | |
| Provisional...... | $1^{h}$ $55^{m}$ $45^{s}$·12 | 40° 11′ 2″·6 |
| 1900. | | |
| 5333 Dec. 28 | −″·29 | +″·02 |
| 5334 ” | −·07 | −·21 |
| **+ 39° 454—*contd.*** | | |
| 1900. | | |
| 5335 Dec. 28 | −″·09 | −″·09 |
| 5336 ” | −·17 | −·11 |
| Mean | −·16 | −·10 |
| Red$^{n}$. to L. | ·00 | −·05 |
| Deduced......... | $1^{h}$ $55^{m}$ $45^{s}$·134 | 40° 11′ 2″·75 |
| **+ 54° 444.** | | |
| Provisional...... | $1^{h}$ $56^{m}$ $26^{s}$·83 | 54° 45′ 0″·1 |
| 1900. | | |
| 5212 Nov. 9 | −″·12 | −″·10 |
| 5213 ” | −·15 | +·06 |
| 5214 ” | +·09 | −·05 |
| 5215 ” | −·20 | −·01 |
| 5216 ” | −·16 | −·14 |
| 5217 ” | +·01 | −·07 |
| 5218 Nov. 10 | −·11 | −·10 |
| 5219 ” | +·02 | +·01 |
| 5220 ” | −·01 | −·07 |
| 5222 ” | −·11 | −·12 |
| 5223 ” | −·07 | −·09 |
| 5226 Nov. 11 | +·05 | +·07 |
| 5227 ” | −·03 | +·09 |
| 5228 ” | +·07 | +·17 |
| 5229 ” | −·05 | −·13 |
| Mean | −·05 | −·03 |
| Red$^{n}$. to L. | −·06 | −·03 |
| Deduced......... | $1^{h}$ $56^{m}$ $26^{s}$·842 | 54° 45′ 0″·16 |
| **+ 37° 465.** | | |
| Provisional...... | $1^{h}$ $56^{m}$ $38^{s}$·11 | 38° 3′ 41″·9 |
| 1900. | | |
| 5337 Dec. 29 | −″·24 | −″·28 |
| 5338 ” | −·17 | −·31 |
| Mean | −·21 | −·30 |
| Red$^{n}$. to L. | −·03 | −·06 |
| Deduced......... | $1^{h}$ $56^{m}$ $38^{s}$·130 | 38° 3′ 42″·26 |

* Weight ½ has been given to these results, the star being between 55′ and 60′ from the centre of the plate.
† Not used in forming the mean, the star being more than 60′ from the centre of the plate.

### TABLE VI.—Residuals from Photographs and Deduced Places of Reference Stars.

+ 53° 440.

| Plate No. and Date. | R.A. 1900·0. | Dec. N. 1900·0. |
|---|---|---|
| Provisional...... | $1^{\mathrm{h}}\ 56^{\mathrm{m}}\ 44^{\mathrm{s}}{\cdot}97$ | 54° 12′ 43″·4 |
| 1900. | ″ | ″ |
| 5212 Nov. 9 | +·01 | −·21 |
| 5213 „ | +·09 | +·07 |
| 5214 „ | −·01 | +·10 |
| 5215 „ | −·02 | +·05 |
| 5216 „ | −·16 | −·10 |
| 5217 „ | −·14 | +·11 |
| 5218 Nov. 10 | +·28 | −·11 |
| 5219 „ | +·20 | −·15 |
| 5220 „ | +·25 | −·06 |
| 5222 „ | −·17 | +·14 |
| 5223 „ | −·08 | −·05 |
| 5226 Nov. 11 | +·23 | +·05 |
| 5227 „ | +·01 | −·14 |
| 5228 „ | +·10 | +·14 |
| 5229 „ | −·06 | +·14 |
| 5230 Nov. 13 | +·11 | ·00 |
| 5231 „ | +·15 | +·13 |
| 5232 „ | +·08 | +·15 |
| 5234 „ | +·12 | −·12 |
| 5235 „ | +·08 | +·04 |
| 5236 „ | −·03 | +·02 |
|  | Mean +·05 | +·01 |
|  | Redn. to L. −·06 | −·02 |
| Deduced......... | $1^{\mathrm{h}}\ 56^{\mathrm{m}}\ 44^{\mathrm{s}}{\cdot}971$ | 54° 12′ 43″·41 |

+ 55° 484.

| Plate No. and Date. | R.A. 1900·0. | Dec. N. 1900·0. |
|---|---|---|
| Provisional...... | $1^{\mathrm{h}}\ 57^{\mathrm{m}}\ 4^{\mathrm{s}}{\cdot}01$ | 55° 17′ 12″·7 |
| 1900. | ″ | ″ |
| 5212 Nov. 9 | −·17 | +·35 |
| 5213 „ | −·01 | +·14 |
| 5214 „ | +·15 | −·10 |
| 5215 „ | −·15 | −·23 |
| 5216 „ | −·20 | +·03 |
| 5217 „ | −·16 | +·13 |
| 5218 Nov. 10 | −·25 | +·18 |
| 5219 „ | −·11 | +·11 |
| 5220 „ | −·26 | +·15 |
| 5222 „ | +·11 | −·17 |
| 5223 „ | −·09 | ·00 |
|  | Mean −·10 | +·05 |
|  | Redn. to L. −·07 | −·03 |
| Deduced......... | $1^{\mathrm{h}}\ 57^{\mathrm{m}}\ 4^{\mathrm{s}}{\cdot}030$ | 55° 17′ 12″·68 |

+ 37° 468.

| Plate No. and Date. | R.A. 1900·0. | Dec. N. 1900·0. |
|---|---|---|
| Provisional...... | $1^{\mathrm{h}}\ 57^{\mathrm{m}}\ 6^{\mathrm{s}}{\cdot}22$ | 38° 9′ 53″·1 |
| 1900. | ″ | ″ |
| 5337 Dec. 29 | +·08 | −·31 |
| 5338 „ | −·08 | −·08 |
|  | Mean ·00 | −·20 |
|  | Redn. to L. −·03 | −·06 |
| Deduced...... .. | $1^{\mathrm{h}}\ 57^{\mathrm{m}}\ 6^{\mathrm{s}}{\cdot}222$ | 38° 9′ 53″·36 |

+ 54° 448.

| Plate No. and Date. | R.A. 1900·0. | Dec. N. 1900·0. |
|---|---|---|
| Provisional...... | $1^{\mathrm{h}}\ 57^{\mathrm{m}}\ 6^{\mathrm{s}}{\cdot}30$ | 54° 38′ 20″·9 |
| 1900. | ″ | ″ |
| 5212 Nov. 9 | +·32 | −·05 |
| 5213 „ | +·25 | −·10 |
| 5214 „ | +·23 | +·02 |
| 5215 „ | +·13 | +·01 |
| 5216 „ | +·05 | −·01 |
| 5217 „ | +·11 | −·12 |
| 5218 Nov. 10 | +·20 | −·21 |
| 5219 „ | +·27 | +·04 |
| 5220 „ | +·32 | −·25 |
| 5222 „ | −·05 | −·08 |
| 5223 „ | −·11 | −·02 |
| 5226 Nov. 11 | +·25 | −·13 |
| 5227 „ | +·20 | −·13 |
| 5228 „ | +·30 | −·15 |
| 5229 „ | +·03 | −·05 |
|  | Mean +·17 | −·08 |
|  | Redn. to L. −·06 | −·02 |
| Deduced......... | $1^{\mathrm{h}}\ 57^{\mathrm{m}}\ 6^{\mathrm{s}}{\cdot}288$ | 54° 38′ 21″·00 |

+ 39° 457.

| Plate No. and Date. | R.A. 1900·0. | Dec. N. 1900·0. |
|---|---|---|
| Provisional...... | $1^{\mathrm{h}}\ 57^{\mathrm{m}}\ 45^{\mathrm{s}}{\cdot}21$ | 39° 34′ 30″·3 |
| 1900. | ″ | ″ |
| 5333 Dec. 28 | +·37 | +·19 |
| 5334 „ | +·54 | +·15 |
| 5335 „ | +·35 | +·10 |
| 5336 „ | +·35 | +·13 |
| 5337 Dec. 29 | +·35 | +·17 |
| 5338 „ | +·56 | −·06 |
|  | Mean +·42 | +·11 |
|  | Redn. to L. −·01 | −·05 |
| Deduced......... | $1^{\mathrm{h}}\ 57^{\mathrm{m}}\ 45^{\mathrm{s}}{\cdot}175$ | 39° 34′ 30″·24 |

+ 54° 452.

| Plate No. and Date. | R.A. 1900·0. | Dec. N. 1900·0. |
|---|---|---|
| Provisional...... | $1^{\mathrm{h}}\ 57^{\mathrm{m}}\ 57^{\mathrm{s}}{\cdot}90$ | 54° 16′ 33″·9 |
| 1900. | ″ | ″ |
| 5210 Nov. 7 | −·03 | −·06 |
| 5211 „ | −·03 | −·07 |
| 5212 Nov. 9 | +·12 | −·18 |
| 5213 „ | +·04 | −·01 |
| 5214 „ | −·33 | −·05 |
| 5215 „ | +·02 | +·02 |
| 5216 „ | −·38 | − 19 |
| 5217 „ | −·28 | ·00 |
| 5218 Nov. 10 | −·08 | −·19 |
| 5219 „ | +·12 | −·17 |
| 5220 „ | +·01 | −·08 |
| 5222 „ | −·18 | +·15 |
| 5223 „ | −·17 | +·01 |
| 5226 Nov. 11 | −·05 | −·13 |
| 5227 „ | +·03 | −·01 |
| 5228 „ | −·01 | −·04 |
| 5229 „ | −·21 | −·01 |
|  | Mean −·08 | −·06 |
|  | Redn. to L. −·06 | −·03 |
| Deduced......... | $1^{\mathrm{h}}\ 57^{\mathrm{m}}\ 57^{\mathrm{s}}{\cdot}916$ | 54° 16′ 33″·99 |

+ 54° 453.

| Plate No. and Date. | R.A. 1900·0. | Dec. N. 1900·0. |
|---|---|---|
| Provisional...... | $1^{\mathrm{h}}\ 58^{\mathrm{m}}\ 17^{\mathrm{s}}{\cdot}94$ | 55° 8′ 36″·0 |
| 1900. | ″ | ″ |
| 5212 Nov. 9 | +·02 | −·01 |
| 5213 „ | +·06 | +·03 |
| 5214 „ | −·06 | −·13 |
| 5216 „ | −·37 | +·09 |
| 5217 „ | −·19 | −·10 |
| 5218 Nov. 10 | −·20 | +·03 |
| 5219 „ | −·10 | +·01 |
| 5220 „ | −·22 | −·15 |
| 5222 „ | −·26 | −·34 |
| 5223 „ | −·15 | −·08 |
| 5226 Nov. 11 | −·08* | ·00* |
| 5227 „ | −·19* | +·25* |
| 5228 „ | −·24* | −·01* |
| 5229 „ | −·25* | −·31* |
|  | Mean −·16 | −·05 |
|  | Redn. to L. −·07 | −·02 |
| Deduced......... | $1^{\mathrm{h}}\ 58^{\mathrm{m}}\ 17^{\mathrm{s}}{\cdot}969$ | 55° 8′ 36″·07 |

* Weigh ½ has been given to these results, the star being between 55′ and 60′ from the centre of the plate.

† Not used in forming the mean, the atar being more than 60′ from the centre of the plate.

## TABLE VI.—Residuals from Photographs and Deduced Places of Reference Stars.

| Plate No. and Date. | R.A. 1900·0. | Dec. N. 1900·0. |
|---|---|---|
| **+ 38° 402.** | | |
| Provisional...... | $1^{h}\ 58^{m}\ 43^{s}{\cdot}34$ | 38° 57′ 18″·1 |
| 1900. | | |
| 5333 Dec. 28 | −″·09† | −″·30† |
| 5334 ,, | +·05† | −·34† |
| 5335 ,, | +·11† | −·50† |
| 5336 ,, | +·03† | −·35† |
| 5337 Dec. 29 | −·15 | −·15 |
| 5338 ,, | −·07 | +·01 |
| | Mean −·11 | −·07 |
| | Red$^{n}$. to L. −·03 | −·06 |
| Deduced......... | $1^{h}\ 58^{m}\ 43^{s}{\cdot}352$ | 38° 57′ 18″·23 |
| **+ 54° 457.** | | |
| Provisional...... | $1^{h}\ 59^{m}\ 8^{s}{\cdot}35$ | 54° 26′ 56″·3 |
| 1900. | | |
| 5210 Nov. 7 | +″·17 | +″·01 |
| 5211 ,, | +·13 | +·02 |
| 5212 Nov. 9 | +·36 | −·05 |
| 5213 ,, | +·14 | +·01 |
| 5214 ,, | −·14 | +·09 |
| 5215 ,, | +·02 | +·10 |
| 5216 ,, | −·20 | +·09 |
| 5217 ,, | +·05 | −·07 |
| 5218 Nov. 10 | +·09 | −·03 |
| 5219 ,, | +·09 | +·01 |
| 5220 ,, | +·20 | −·10 |
| 5222 ,, | −·11 | +·09 |
| 5223 ,, | +·06 | +·11 |
| 5226 Nov. 11 | −·01 | +·22 |
| 5227 ,, | −·06 | +·16 |
| 5228 ,, | +·25 | +·18 |
| 5229 ,, | −·18 | +·20 |
| | Mean +·05 | +·07 |
| | Red$^{n}$. to L. −·06 | −·03 |
| Deduced......... | $1^{h}\ 59^{m}\ 8^{s}{\cdot}351$ | 54° 26′ 56″·26 |
| **+ 39° 464.** | | |
| Provisional...... | $1^{h}\ 59^{m}\ 43^{s}{\cdot}25$ | 39° 16′ 52″·7 |
| 1900. | | |
| 5333 Dec. 28 | −″·11† | +″·15† |
| 5334 ,, | +·20† | +·01† |
| 5335 ,, | +·27† | +·28† |
| **+ 39° 464—*contd.*** | | |
| 1900. | | |
| 5336 Dec. 28 | −″·15† | +″·18† |
| 5337 Dec. 29 | −·06 | +·42 |
| 5338 ,, | −·21 | +·21 |
| | Mean −·14 | +·32 |
| | Red$^{n}$. to L. −·03 | −·06 |
| Deduced......... | $1^{h}\ 59^{m}\ 43^{s}{\cdot}265$ | 39° 16′ 52″·44 |
| **+ 53° 451.** | | |
| Provisional..... | $2^{h}\ 0^{m}\ 2^{s}{\cdot}99$ | 53° 49′ 48″·7 |
| 1900. | | |
| 5210 Nov. 7 | +″·12 | +″·15 |
| 5211 ,, | −·05 | +·18 |
| 5212 Nov. 9 | −·05 | +·14 |
| 5213 ,, | −·09 | +·17 |
| 5214 ,, | −·09 | +·17 |
| 5215 ,, | −·06 | +·13 |
| 5216 ,, | −·19 | +·01 |
| 5217 ,, | −·13 | +·12 |
| 5218 Nov. 10 | −·11 | +·16 |
| 5219 ,, | −·22 | +·08 |
| 5220 ,, | −·01 | +·22 |
| 5222 ,, | −·16 | +·15 |
| 5223 ,, | −·18 | +·07 |
| 5226 Nov. 11 | −·25* | +·31* |
| 5227 ,, | +·17* | +·19* |
| 5228 ,, | +·05* | +·36* |
| 5229 ,, | +·21* | +·06* |
| | Mean −·06 | +·15 |
| | Red$^{n}$. to L. −·07 | −·03 |
| Deduced......... | $2^{h}\ 0^{m}\ 3^{s}{\cdot}004$ | 53° 49′ 48″·58 |
| **+ 38° 408.** | | |
| Provisional...... | $2^{h}\ 0^{m}\ 22^{s}{\cdot}60$ | 38° 25′ 18″·3 |
| 1900. | | |
| 5337 Dec. 29 | −″·13† | −″·03† |
| 5338 ,, | −·15 | −·02 |
| | Mean −·15 | −·02 |
| | Red$^{n}$. to L. −·03 | −·06 |
| Deduced......... | $2^{h}\ 0^{m}\ 22^{s}{\cdot}615$ | 38° 25′ 18″·38 |
| **+ 39° 468.** | | |
| Provisional...... | $2^{h}\ 0^{m}\ 30^{s}{\cdot}27$ | 40° 7′ 15″·3 |
| 1900. | | |
| 5337 Dec. 29 | −″·07 | +″·13 |
| 5338 ,, | −·18 | −·22 |
| | Mean −·13 | −·05 |
| | Red$^{n}$. to L. −·03 | −·06 |
| Deduced......... | $2^{h}\ 0^{m}\ 30^{s}{\cdot}284$ | 40° 7′ 15″·41 |
| **+ 53° 453.** | | |
| Provisional...... | $2^{h}\ 1^{m}\ 36^{s}{\cdot}45$ | 54° 7′ 38″·4 |
| 1900. | | |
| 5209 Nov. 6 | −″·07 | +″·12 |
| 5210 Nov. 7 | −·10 | +·28 |
| 5211 ,, | −·19 | +·15 |
| 5212 Nov. 9 | −·17 | +·19 |
| 5213 ,, | −·24 | + 08 |
| 5214 ,, | −·21 | +·23 |
| 5215 ,, | −·15 | +·29 |
| 5216 ,, | +·14 | +·07 |
| 5217 ,, | −·27 | +·18 |
| 5218 Nov. 10 | −·26 | +·15 |
| 5219 ,, | −·18 | +·16 |
| 5220 ,, | −·21 | +·25 |
| 5222 ,, | −·11 | +·27 |
| 5223 ,, | −·03 | +·17 |
| | Mean −·14 | +·18 |
| | Red$^{n}$. to L. −·07 | −·04 |
| Deduced......... | $2^{h}\ 1^{m}\ 36^{s}{\cdot}474$ | 54° 7′ 38″·26 |
| **+ 37° 486.** | | |
| Provisional...... | $2^{h}\ 2^{m}\ 27^{s}{\cdot}04$ | 37° 23′ 5″·2 |
| 1901. | | |
| 5339 Jan. 2 | −″·78 | −″·22 |
| | Red$^{n}$. to L. +·02 | −·01 |
| Deduced......... | $2^{h}\ 2^{m}\ 27^{s}{\cdot}103$ | 37° 23′ 5″·43 |

---

* Weight ½ has been given to these results, the star being between 55′ and 60′ from the centre of the plate.

† Not used in forming the mean, the star being more than 60′ from the centre of the plate.

## TABLE VI.—Residuals from Photographs and Deduced Places of Reference Stars.

| Plate No. and Date. | R.A. 1900·0. | Dec. N. 1900·0. |
|---|---|---|
| **+ 54° 469.** | | |
| Provisional...... | $2^h\ 3^m\ 9^s{\cdot}16$ | 55° 0′ 48″·4 |
| 1900. | | |
| 5209 Nov. 6 | −″·02 | −″·13 |
| 5210 Nov. 7 | +·05 | −·38 |
| 5211 ,, | +·13 | −·55 |
| 5212 Nov. 9 | −·14* | −·33* |
| 5213 ,, | −·03* | −·32* |
| 5214 ,, | +·13* | −·07* |
| 5215 ,, | +·29* | −·24* |
| 5216 ,, | ·00* | −·13* |
| 5217 ,, | +·10* | −·18* |
| | Mean +·05 | −·28 |
| | Red$^n$. to L. −·07 | −·04 |
| Deduced......... | $2^h\ 3^m\ 9^s{\cdot}162$ | 55° 0 48″·72 |
| **+ 53° 459.** | | |
| Provisional...... | $2^h\ 3^m\ 20^s{\cdot}88$ | 53° 51′ 27″·5 |
| 1900. | | |
| 5209 Nov. 6 | +″·13 | +″·01 |
| 5210 Nov. 7 | +·10 | −·02 |
| 5211 ,, | +·05 | +·01 |
| 5212 Nov. 9 | −·10 | +·09 |
| 5213 ,, | +·06 | −·09 |
| 5214 ,, | +·16 | −·02 |
| 5215 ,, | +·19 | −·19 |
| 5216 ,, | +·43 | +·06 |
| 5217 ,, | +·28 | −·09 |
| 5218 Nov. 10 | +·40† | +·06† |
| 5222 ,, | +·18† | −·09† |
| 5223 ,, | +·80† | −·48† |
| | Mean +·14 | −·02 |
| | Red$^n$. to L. −·06 | −·04 |
| Deduced......... | $2^h\ 3^m\ 20^s{\cdot}871$ | 53° 51′ 27″·56 |
| **+ 54° 470.** | | |
| Provisional...... | $2^h\ 3^m\ 27^s{\cdot}83$ | 54° 49′ 6″·4 |
| 1900. | | |
| 5209 Nov. 6 | −″·07 | −″·21 |
| 5210 Nov. 7 | +·09 | −·42 |
| 5211 ,, | +·13 | −·49 |
| 5212 Nov. 9 | +″·13 | −″·32 |
| 5214 ,, | +·09 | −·25 |
| 5215 ,, | +·02 | −·21 |
| 5216 ,, | +·38 | −·05 |
| 5217 ,, | +·27 | −·19 |
| | Mean +·11 | −·28 |
| | Red$^n$. to L. −·06 | −·04 |
| Deduced......... | $2^h\ 3^m\ 27^s{\cdot}824$ | 54° 49′ 6″·72 |
| **+ 36° 426.** | | |
| Provisional...... | $2^h\ 4^m\ 37^s{\cdot}58$ | 37° 13′ 44″·8 |
| 1901. | | |
| 5339 Jan. 2 | ″·00 | −″·17 |
| | Red$^n$. to L. +·02 | −·01 |
| Deduced......... | $2^h\ 4^m\ 37^s{\cdot}578$ | 37° 13′ 44″·98 |
| **+ 38° 423.** | | |
| Provisional...... | $2^h\ 4^m\ 41^s{\cdot}63$ | 38° 13′ 52″·5 |
| 1901. | | |
| 5339 Jan. 2 | +″·08 | −″·14 |
| | Red$^n$. to L. +·02 | −·01 |
| Deduced......... | $2^h\ 4^m\ 41^s{\cdot}621$ | 38° 13′ 52″·65 |
| **+ 53° 470.** | | |
| Provisional...... | $2^h\ 4^m\ 59^s{\cdot}60$ | 54° 4′ 47″·2 |
| 1900. | | |
| 5209 Nov. 6 | +″·09 | +″·29 |
| 5210 Nov. 7 | −·16 | +·30 |
| 5211 ,, | −·02 | +·52 |
| 5212 Nov. 9 | −·19* | +·67* |
| 5213 ,, | −·16* | +·27* |
| 5214 ,, | −·23* | +·29* |
| 5215 ,, | −·02* | +·23* |
| 5216 ,, | +·19* | +·37* |
| 5217 ,, | +·03* | +·35* |
| | Mean −·04 | +·36 |
| | Red$^n$. to L. −·06 | −·04 |
| Deduced......... | $2^h\ 4^m\ 59^s{\cdot}611$ | 54° 4′ 46″·88 |
| **+ 36° 427.** | | |
| Provisional...... | $2^h\ 5^m\ 25^s{\cdot}33$ | 36° 52′ 51″·2 |
| 1901. | | |
| 5339 Jan. 2 | −″·01 | +″·21 |
| | Red$^n$. to L. +·02 | −·01 |
| Deduced......... | $2^h\ 5^m\ 25^s{\cdot}329$ | 36° 52′ 51″·00 |
| **+ 54° 483.** | | |
| Provisional...... | $2^h\ 6^m\ 11^s{\cdot}44$ | 54° 38′ 27″·7 |
| 1900. | | |
| 5209 Nov. 6 | +″·16 | −″·19 |
| 5210 Nov. 7 | −·21 | +·06 |
| 5211 ,, | −·06 | −·07 |
| | Mean −·02 | −·08 |
| | Red$^n$. to L. −·06 | −·04 |
| Deduced......... | $2^h\ 6^m\ 11^s{\cdot}449$ | 54° 38′ 27″·82 |
| **+ 53° 474.** | | |
| Provisional...... | $2^h\ 6^m\ 26^s{\cdot}07$ | 53° 44′ 57″·3 |
| 1900. | | |
| 5209 Nov. 6 | +″·05 | +″·18 |
| 5210 Nov. 7 | −·02 | +·12 |
| 5211 ,, | −·12 | +·30 |
| | Mean −·02 | +·20 |
| | Red$^n$. to L. −·06 | −·04 |
| Deduced......... | $2^h\ 6^m\ 26^s{\cdot}079$ | 53° 44′ 57″·14 |
| **+ 36° 435.** | | |
| Provisional...... | $2^h\ 6^m\ 45^s{\cdot}24$ | 36° 54′ 1″·3 |
| 1901. | | |
| 5339 Jan. 2 | +″·10 | +″·03 |
| 5341 Jan. 4 | +·02† | −·24† |
| 5342 ,, | +·30† | −·47† |
| 5343 ,, | +·53† | −·33† |
| | Mean +·10 | +·03 |
| | Red$^n$. to L. +·02 | −·01 |
| Deduced......... | $2^h\ 6^m\ 45^s{\cdot}230$ | 36° 54′ 1″·28 |

* Weight ½ has been given to these results, the star being between 55′ and 60′ from the centre of the plate.
† Not used in forming the mean, the star being more than 60′ from the centre of the plate.

## TABLE VI.—Residuals from Photographs and Deduced Places of Reference Stars.

**+ 54° 494.**

| Plate No. and Date. | R.A. 1900·0. | Dec. N. 1900·0. |
|---|---|---|
| Provisional...... | $2^{h}\ 7^{m}\ 42^{s}{\cdot}06$ | 54° 50′ 56″·8 |
| 1900. | | |
| 5209 Nov. 6 | +″·01 | −″·20 |
| | Red$^{n}$. to L. −·05 | −·06 |
| Deduced......... | $2^{h}\ 7^{m}\ 42^{s}{\cdot}065$ | 54° 50′ 57″·06 |

**+ 37° 505.**

| Plate No. and Date. | R.A. 1900·0. | Dec. N. 1900·0. |
|---|---|---|
| Provisional...... | $2^{h}\ 7^{m}\ 52^{s}{\cdot}48$ | 37° 56′ 20″·6 |
| 1901. | | |
| 5339 Jan. 2 | ″·00 | −″·06 |
| | Red$^{n}$. to L. +·02 | −·01 |
| Deduced......... | $2^{h}\ 7^{m}\ 52^{s}{\cdot}478$ | 37° 56′ 20″·67 |

**+ 36° 440.**

| Plate No. and Date. | R.A. 1900·0. | Dec. N. 1900·0. |
|---|---|---|
| Provisional...... | $2^{h}\ 7^{m}\ 53^{s}{\cdot}58$ | 37° 8′ 58″·9 |
| 1901. | | |
| 5339 Jan. 2 | +″·26 | +″·15 |
| 5341 Jan. 4 | +·05 | +·06 |
| 5342 ,, | +·15 | −·04 |
| 5343 ,, | −·01 | +·04 |
| | Mean +·13 | +·06 |
| | Red$^{n}$. to L. +·03 | ·00 |
| Deduced......... | $2^{h}\ 7^{m}\ 53^{s}{\cdot}567$ | 37° 8′ 58″·84 |

**+ 37° 506.**

| Plate No. and Date. | R.A. 1900·0. | Dec. N. 1900·0. |
|---|---|---|
| Provisional...... | $2^{h}\ 8^{m}\ 4^{s}{\cdot}51$ | 38° 10′ 15″·6 |
| 1901. | | |
| 5339 Jan. 2 | +″·15 | +″·10 |
| | Red$^{n}$. to L. +·02 | −·01 |
| Deduced......... | $2^{h}\ 8^{m}\ 4^{s}{\cdot}496$ | 38° 10′ 15″·51 |

**+ 53° 486.**

| Plate No. and Date. | R.A. 1900·0. | Dec. N. 1900·0. |
|---|---|---|
| Provisional...... | $2^{h}\ 8^{m}\ 4^{s}{\cdot}91$ | 54° 3′ 51″·3 |
| 1900. | | |
| 5209 Nov. 6 | −″·10 | +″·09 |
| | Red$^{n}$. to L. −·05 | −·06 |
| Deduced......... | $2^{h}\ 8^{m}\ 4^{s}{\cdot}927$ | 54° 3′ 51″·27 |

**+ 54° 497.**

| Plate No. and Date. | R.A. 1900·0. | Dec. N. 1900·0. |
|---|---|---|
| Provisional...... | $2^{h}\ 8^{m}\ 17^{s}{\cdot}16$ | 54° 37′ 14″·1 |
| 1900. | | |
| 5209 Nov. 6 | −″·20 | +″·06 |
| | Red$^{n}$. to L. −·05 | −·06 |
| Deduced......... | $2^{h}\ 8^{m}\ 17^{s}{\cdot}187$ | 54° 37′ 14″·10 |

**+ 37° 512.**

| Plate No. and Date. | R.A. 1900·0. | Dec. N. 1900·0. |
|---|---|---|
| Provisional...... | $2^{h}\ 9^{m}\ 25^{s}{\cdot}44$ | 37° 55′ 2″·3 |
| 1901. | | |
| 5339 Jan. 2 | +″·18 | +″·08 |
| | Red$^{n}$. to L. +·02 | −·01 |
| Deduced......... | $2^{h}\ 9^{m}\ 25^{s}{\cdot}423$ | 37° 55′ 2″·23 |

**+ 36° 446.**

| Plate No. and Date. | R.A. 1900·0. | Dec. N. 1900·0. |
|---|---|---|
| Provisional...... | $2^{h}\ 9^{m}\ 52^{s}{\cdot}90$ | 36° 18′ 19″·4 |
| 1901. | | |
| 5341 Jan. 4 | +″·27 | −″·06 |
| 5342 ,, | +·47 | +·12 |
| 5343 ,, | +·17 | +·18 |
| 5344 Jan. 5 | (−·56) | (−·07) |
| 5345 ,, | −·07* | +·05* |
| 5346 ,, | −·20* | ·00* |
| 5347 ,, | +·26* | +·18* |
| 5348 ,, | −·30* | +·29* |
| | Mean +·14 | +·10 |
| | Red$^{n}$. to L. +·02 | −·01 |
| Deduced......... | $2^{h}\ 9^{m}\ 52^{s}{\cdot}887$ | 36° 18′ 19″·31 |

**+ 36° 450.**

| Plate No. and Date. | R.A. 1900·0. | Dec. N. 1900·0. |
|---|---|---|
| Provisional...... | $2^{h}\ 10^{m}\ 27^{s}{\cdot}29$ | 36° 40′ 59″·7 |
| 1901. | | |
| 5341 Jan. 4 | +″·11 | −″·22 |
| 5342 ,, | +·28 | −·22 |
| 5343 ,, | +·18 | −·08 |
| 5344 Jan. 5 | (−·30) | (+·02) |
| 5345 ,, | +·28* | −·23* |
| 5346 ,, | −·01* | +·09* |
| 5347 ,, | +·29* | +·48* |
| 5348 ,, | −·07* | +·46* |
| | Mean +·16 | −·01 |
| | Red$^{n}$. to L. +·02 | −·01 |
| Deduced......... | $2^{h}\ 10^{m}\ 27^{s}{\cdot}275$ | 36° 40′ 59″·72 |

**+ 37° 514.**

| Plate No. and Date. | R.A. 1900·0. | Dec. N. 1900·0. |
|---|---|---|
| Provisional...... | $2^{h}\ 10^{m}\ 54^{s}{\cdot}33$ | 37° 40′ 56″·7 |
| 1901. | | |
| 5341 Jan. 4 | −″·18 | +″·49 |
| 5342 ,, | −·44 | +·56 |
| 5343 ,, | −·19 | +·20 |
| | Mean −·27 | +·42 |
| | Red$^{n}$. to L. +·03 | ·00 |
| Deduced......... | $2^{h}\ 10^{m}\ 54^{s}{\cdot}350$ | 37° 40′ 56″·28 |

**+ 36° 453.**

| Plate No. and Date. | R.A. 1900·0. | Dec. N. 1900·0. |
|---|---|---|
| Provisional...... | $2^{h}\ 11^{m}\ 8^{s}{\cdot}34$ | 37° 1′ 11″·2 |
| 1901. | | |
| 5341 Jan. 4 | +″·11 | −″·35 |
| 5342 ,, | +·22 | −·44 |
| 5343 ,, | +·08 | −·52 |
| 5344 Jan. 5 | (−·31) | (+·06) |
| 5345 ,, | −·09† | −·42† |
| 5346 ,, | −·07† | −·30† |
| 5347 ,, | −·15† | +·05† |
| | Mean +·14 | −·44 |
| | Red$^{n}$. to L. +·03 | ·00 |
| Reduced......... | $2^{h}\ 11^{m}\ 8^{s}{\cdot}326$ | 37° 1′ 11″·64 |

---

* Weight ½ has been given to these results, the star being between 55′ and 60′ from the centre of the plate.

† Not used in forming the mean, the star being more than 60′ from the centre of the plate.

## TABLE VI.—Residuals from Photographs and Deduced Places of Reference Stars.

| Plate No. and Date. | R.A. 1900·0. | Dec. N. 1900·0. |
|---|---|---|
| + 37° 516. | | |
| Provisional...... | $2^{h}\ 11^{m}\ 14^{s}{\cdot}73$ | 37° 22′ 8″·5 |
| 1901. | | |
| 5341 Jan. 4 | +″·11 | +″·10 |
| 5342 ” | +·23 | +·18 |
| 5343 ” | +·17 | −·05 |
| | Mean +·17 | +·08 |
| | Red$^{\text{n}}$. to L. +·03 | ·00 |
| Deduced......... | $2^{h}\ 11^{m}\ 14^{s}{\cdot}713$ | 37° 22′ 8″·42 |
| + 53° 497. | | |
| Provisional...... | $2^{h}\ 11^{m}\ 34^{s}{\cdot}85$ | 53° 49′ 0″·0 |
| 1900. | | |
| 5207 Oct. 31 | −″·06 | +″·04 |
| 5208 ” | −·19 | +·22 |
| | Mean −·13 | +·13 |
| | Red$^{\text{n}}$. to L. −·08 | −·05 |
| Deduced......... | $2^{h}\ 11^{m}\ 34^{s}{\cdot}873$ | 53° 48′ 59″·92 |
| + 37° 518. | | |
| Provisional...... | $2^{h}\ 11^{m}\ 49^{s}{\cdot}14$ | 37° 37′ 28″·1 |
| 1901. | | |
| 5341 Jan. 4 | −″·09 | +″·06 |
| 5342 ” | −·09 | +·20 |
| 5343 ” | −·08 | +·26 |
| | Mean −·09 | +·17 |
| | Red$^{\text{n}}$. to L. +·03 | ·00 |
| Deduced......... | $2^{h}\ 11^{m}\ 49^{s}{\cdot}145$ | 37° 37′ 27″·93 |
| + 52° 563. | | |
| Provisional...... | $2^{h}\ 12^{m}\ 6^{s}{\cdot}04$ | 53° 6′ 51″·1 |
| 1900. | | |
| 5207 Oct. 31 | +″·13 | −″·25 |
| 5208 ” | +·18 | −·12 |
| | Mean +·16 | −·19 |
| | Red$^{\text{n}}$. to L. −·08 | −·05 |
| Deduced......... | $2^{h}\ 12^{m}\ 6^{s}{\cdot}031$ | 53° 6′ 51″·34 |
| + 53° 501. | | |
| Provisional...... | $2^{h}\ 12^{m}\ 6^{s}{\cdot}45$ | 53° 38′ 0″·6 |
| 1900. | | |
| 5207 Oct. 31 | +″·04 | −″·22 |
| 5208 ” | −·01 | −·18 |
| | Mean +·02 | −·20 |
| | Red$^{\text{n}}$. to L. −·08 | −·05 |
| Deduced......... | $2^{h}\ 12^{m}\ 6^{s}{\cdot}457$ | 53° 38′ 0″·85 |
| + 36° 458. | | |
| Provisional...... | $2^{h}\ 12^{m}\ 32^{s}{\cdot}93$ | 36° 36′ 17″·0 |
| 1901. | | |
| 5341 Jan. 4 | −″·19 | +″·07 |
| 5342 ” | −·33 | +·03 |
| 5343 ” | −·30 | +·17 |
| 5344 Jan. 5 | (−·42) | (+·01) |
| 5345 ” | −·26 | +·08 |
| 5346 ” | −·17 | +·18 |
| 5347 ” | −·06 | +·23 |
| 5348 ” | −·31 | +·34 |
| | Mean −·23 | +·16 |
| | Red$^{\text{n}}$. to L. +·02 | −·01 |
| Deduced......... | $2^{h}\ 12^{m}\ 32^{s}{\cdot}947$ | 36° 36′ 16″·85 |
| + 53° 507. | | |
| Provisional...... | $2^{h}\ 14^{m}\ 20^{s}{\cdot}08$ | 54° 3′ 4″·0 |
| 1900. | | |
| 5207 Oct. 31 | −″·39 | +″·15 |
| 5208 ” | −·11 | +·16 |
| | Mean −·25 | +·16 |
| | Red$^{\text{n}}$. to L. −·08 | −·05 |
| Deduced......... | $2^{h}\ 14^{m}\ 20^{s}{\cdot}117$ | 54° 3′ 3″·89 |
| + 36° 464. | | |
| Provisional...... | $2^{h}\ 14^{m}\ 57^{s}{\cdot}56$ | 36° 36′ 45″·2 |
| 1901. | | |
| 5341 Jan. 4 | −″·23 | +″·11 |
| 5342 ” | −·81 | +·08 |
| 5343 ” | −·59 | +·12 |
| + 36° 464—*contd.* | | |
| 1901. | | |
| 5344 Jan. 5 | (−″·04) | (+″·05) |
| 5345 ” | −·44 | +·13 |
| 5346 ” | −·16 | +·12 |
| 5347 ” | −·29 | +·20 |
| 5348 ” | −·36 | +·15 |
| | Mean −·41 | +·13 |
| | Red$^{\text{n}}$. to L. +·02 | −·01 |
| Deduced......... | $2^{h}\ 14^{m}\ 57^{s}{\cdot}592$ | 36° 36′ 45″·08 |
| + 54° 530. | | |
| Provisional...... | $2^{h}\ 15^{m}\ 44^{s}{\cdot}14$ | 54° 37′ 21″·9 |
| 1900. | | |
| 5207 Oct. 31 | +″·53 | +″·28 |
| | Red$^{\text{n}}$. to L. −·08 | −·05 |
| Deduced......... | $2^{h}\ 15^{m}\ 44^{s}{\cdot}089$ | 54° 37′ 21″·67 |
| + 36° 470. | | |
| Provisional...... | $2^{h}\ 17^{m}\ 13^{s}{\cdot}12$ | 37° 6′ 16″·2 |
| 1901. | | |
| 5344 Jan. 5 | (+″·21) | (+″·42) |
| 5345 ” | +·23 | +·08 |
| 5346 ” | +·36 | +·17 |
| 5347 ” | −·12 | +·04 |
| 5348 ” | +·14 | +·07 |
| | Mean +·15 | +·09 |
| | Red$^{\text{n}}$. to L. +·01 | −·02 |
| Deduced......... | $2^{h}\ 17^{m}\ 13^{s}{\cdot}107$ | 37° 6′ 16″·13 |
| + 53° 519. | | |
| Provisional...... | $2^{h}\ 17^{m}\ 20^{s}{\cdot}15$ | 53° 44′ 9″·8 |
| 1900. | | |
| 5205 Oct. 29 | +″·02 | −″·11 |
| 5206 ” | +·18 | −·07 |
| | Mean +·10 | −·09 |
| | Red$^{\text{n}}$. to L. −·08 | −·09 |
| Deduced......... | $2^{h}\ 17^{m}\ 20^{s}{\cdot}148$ | 53° 44′ 9″·98 |

---

* Weight ½ has been given to these results, the star being between 55′ and 60′ from the centre of the plate.

† Not used in forming the mean, the star being more than 60′ from the centre of the plate.

TABLE VI.—Residuals from Photographs and Deduced Places of Reference Stars.

+ 53° 521.

| Plate No. and Date. | R.A. 1900·0. | Dec. N. 1900·0. |
|---|---|---|
| Provisional...... | 2$^{\text{h}}$ 17$^{\text{m}}$ 28$^{\text{s}}$·85 | 53° 19′ 11″·5 |
| 1900. | | |
| 5205 Oct. 29 | −″·09 | −″·11 |
| 5206 ,, | −·13 | −·15 |
| 5207 Oct. 31 | −·23 | −·16 |
| 5208 ,, | −·19 | −·13 |
| Mean | −·16 | −·14 |
| Red$^{\text{n}}$. to L. | −·08 | −·07 |
| Deduced......... | 2$^{\text{h}}$ 17$^{\text{m}}$ 28$^{\text{s}}$·877 | 53° 19′ 11″·71 |

+ 52° 576.

| Plate No. and Date. | R.A. 1900·0. | Dec. N. 1900·0. |
|---|---|---|
| Provisional...... | 2$^{\text{h}}$ 17$^{\text{m}}$ 35$^{\text{s}}$·33 | 52° 59′ 36″·9 |
| 1900. | | |
| 5205 Oct. 29 | −″·10 | +″·02 |
| 5206 ,, | −·11 | −·08 |
| 5207 Oct. 31 | +·16 | −·16 |
| 5208 ,, | +·20 | −·21 |
| Mean | +·04 | −·11 |
| Red$^{\text{n}}$. to L. | −·08 | −·07 |
| Deduced......... | 2$^{\text{h}}$ 17$^{\text{m}}$ 35$^{\text{s}}$·334 | 52° 59′ 37″·08 |

+ 36° 473.

| Plate No. and Date. | R.A. 1900·0. | Dec. N. 1900·0. |
|---|---|---|
| Provisional...... | 2$^{\text{h}}$ 17$^{\text{m}}$ 36$^{\text{s}}$·76 | 36° 38′ 51″·3 |
| 1901. | | |
| 5344 Jan. 5 | (+″·28) | (−″·32) |
| 5345 ,, | +·03 | −·26 |
| 5346 ,, | +·10 | −·30 |
| 5347 ,, | −·18 | −·57 |
| 5348 ,, | +·17 | −·41 |
| Mean | +·03 | −·39 |
| Red$^{\text{n}}$. to L. | +·01 | −·02 |
| Deduced......... | 2$^{\text{h}}$ 17$^{\text{m}}$ 36$^{\text{s}}$·757 | 36° 38′ 51″·71 |

+ 52° 580.

| Plate No. and Date. | R.A. 1900·0. | Dec. N. 1900·0. |
|---|---|---|
| Provisional...... | 2$^{\text{h}}$ 19$^{\text{m}}$ 3$^{\text{s}}$·14 | 52° 55′ 1″·6 |
| 1900. | | |
| 5183 Oct. 26 | −″·24* | −″·20* |
| 5184 ,, | −·02* | −·33* |
| 5185 ,, | −·13* | −·11* |

+ 52° 580—*contd.*

| Plate No. and Date. | R.A. 1900·0. | Dec. N. 1900·0. |
|---|---|---|
| 1900. | | |
| 5187 Oct. 26 | −″·16* | +″·08* |
| 5190 ,, | −·34* | +·02* |
| 5191 Oct. 27 | +·38 | −·24 |
| 5192 ,, | +·29 | −·19 |
| 5193 ,, | +·05 | −·27 |
| 5200 ,, | +·01 | −·23 |
| 5201 ,, | −·19 | −·09 |
| 5202 ,, | −·06 | −·10 |
| 5203 ,, | −·10 | −·22 |
| 5204 Oct. 28 | +·01 | +·21 |
| 5205 Oct. 29 | +·09 | +·09 |
| 5206 ,, | +·14 | −·01 |
| Mean | +·01 | −·06 |
| Red$^{\text{n}}$. to L. | −·08 | −·08 |
| Deduced......... | 2$^{\text{h}}$ 19$^{\text{m}}$ 3$^{\text{s}}$·147 | 52° 55′ 1″·74 |

+ 36° 478.

| Plate No. and Date. | R.A. 1900·0. | Dec. N. 1900·0. |
|---|---|---|
| Provisional...... | 2$^{\text{h}}$ 19$^{\text{m}}$ 9$^{\text{s}}$·89 | 36° 39′ 59″·7 |
| 1901. | | |
| 5344 Jan. 5 | (+″·11) | (+″·07) |
| 5345 ,, | −·27 | +·08 |
| 5346 ,, | −·40 | −·16 |
| 5347 ,, | −·28 | −·22 |
| 5348 ,, | −·18 | −·31 |
| Mean | −·28 | −·15 |
| Red$^{\text{n}}$. to L. | +·01 | −·02 |
| Deduced......... | 2$^{\text{h}}$ 19$^{\text{m}}$ 9$^{\text{s}}$·912 | 36° 39′ 59″·87 |

+ 35° 470.

| Plate No. and Date. | R.A. 1900·0. | Dec. N. 1900·0. |
|---|---|---|
| Provisional...... | 2$^{\text{h}}$ 19$^{\text{m}}$ 20$^{\text{s}}$·77 | 35° 31′ 8″·5 |
| 1901. | | |
| 5344 Jan. 5 | (+″·47)† | (−″·60)† |
| 5345 ,, | +·14† | +·07† |
| 5346 ,, | +·21† | −·01† |
| 5347 ,, | −·18† | −·59† |
| 5348 ,, | +·17† | −·72† |
| 5349 Jan. 8 | −·04 | −·01 |
| 5350 ,, | −·17 | −·19 |
| 5351 ,, | ·00 | −·16 |
| 5352 ,, | −·22 | −·11 |
| Mean | −·11 | −·12 |
| Red$^{\text{n}}$. to L. | +·01 | +·03 |
| Deduced......... | 2$^{\text{h}}$ 19$^{\text{m}}$ 20$^{\text{s}}$·778 | 35° 31′ 8″·59 |

+ 34° 432.

| Plate No. and Date. | R.A. 1900·0. | Dec. N. 1900·0. |
|---|---|---|
| Provisional...... | 2$^{\text{h}}$ 19$^{\text{m}}$ 25$^{\text{s}}$·32 | 34° 35′ 21″·5 |
| 1901. | | |
| 5349 Jan. 8 | −″·35 | +″·06 |
| 5350 ,, | −·27 | +·29 |
| 5351 ,, | −·09 | +·29 |
| 5352 ,, | −·30 | +·20 |
| Mean | −·25 | +·21 |
| Red$^{\text{n}}$. to L. | +·01 | +·03 |
| Deduced......... | 2$^{\text{h}}$ 19$^{\text{m}}$ 25$^{\text{s}}$·339 | 34° 35′ 21″·26 |

+ 53° 525.

| Plate No. and Date. | R.A. 1900·0. | Dec. N. 1900·0. |
|---|---|---|
| Provisional...... | 2$^{\text{h}}$ 19$^{\text{m}}$ 30$^{\text{s}}$·26 | 53° 40′ 27″·0 |
| 1900. | | |
| 5183 Oct. 26 | −1″·34† | +″·88† |
| 5184 ,, | − ·71† | +·60† |
| 5185 ,, | − ·93† | +·50† |
| 5186 ,, | − ·76† | +·32† |
| 5187 ,, | − ·78† | +·57† |
| 5189 ,, | − ·32† | +·14† |
| 5190 ,, | − ·78† | +·47† |
| 5191 Oct. 27 | − ·75 | +·44 |
| 5192 ,, | − ·57 | +·42 |
| 5193 ,, | − ·77 | +·24 |
| 5200 ,, | − ·82 | +·11 |
| 5201 ,, | − ·77 | +·07 |
| 5202 ,, | − ·52 | +·14 |
| 5203 ,, | − ·69 | +·12 |
| 5204 Oct. 28 | − ·23 | +·14 |
| 5205 Oct. 29 | − ·25 | +·18 |
| 5206 ,, | − ·28 | +·07 |
| 5207 Oct. 31 | − ·18 | +·03 |
| 5208 ,, | − ·16 | +·03 |
| Mean | −·43 | +·15 |
| Red$^{\text{n}}$. to L. | −·08 | −·07 |
| Deduced......... | 2$^{\text{h}}$ 19$^{\text{m}}$ 30$^{\text{s}}$·316 | 53° 40′ 26″·92 |

+ 36° 482.

| Plate No. and Date. | R.A. 1900·0. | Dec. N. 1900·0. |
|---|---|---|
| Provisional...... | 2$^{\text{h}}$ 19$^{\text{m}}$ 44$^{\text{s}}$·32 | 36° 33′ 40″·1 |
| 1901. | | |
| 5344 Jan. 5 | (+″·56) | (+″·35) |
| 5345 ,, | +·47 | +·44 |
| 5346 ,, | +·31 | +·24 |

* Weight ½ has been given to these results, the star being between 55′ and 60′ from the centre of the plate.
† Not used in forming the mean, the star being more than 60′ from the centre of the plate.

## TABLE VI.—Residuals from Photographs and Deduced Places of Reference Stars.

### + 36° 482—*contd.*

| Plate No. and Date. | R.A. 1900·0. | Dec. N. 1900·0. |
|---|---|---|
| 1901. | | |
| 5347 Jan. 5 | +″·68 | +″·21 |
| 5348 ,, | +·78 | +·11 |
| Mean | +·56 | +·25 |
| Red$^{n}$. to L. | +·01 | −·02 |
| Deduced……… | 2$^{h}$ 19$^{m}$ 44$^{s}$·273 | 36° 33′ 39″·87 |

### + 34° 435.

| Plate No. and Date. | R.A. 1900·0. | Dec. N. 1900·0. |
|---|---|---|
| Provisional…… | 2$^{h}$ 20$^{m}$ 8$^{s}$·27 | 34° 24′ 7″·3 |
| 1901. | | |
| 5349 Jan. 8 | −″·24 | −″·16 |
| 5350 ,, | −·09 | +·03 |
| 5351 ,, | +·06 | +·14 |
| 5352 ,, | −·05 | +·05 |
| Mean | −·08 | +·02 |
| Red$^{n}$. to L. | +·01 | +·03 |
| Deduced……… | 2$^{h}$ 20$^{m}$ 8$^{s}$·276 | 34° 24′ 7″·25 |

### + 52° 581.

| Plate No. and Date. | R.A. 1900·0. | Dec. N. 1900·0. |
|---|---|---|
| Provisional…… | 2$^{h}$ 20$^{m}$ 30$^{s}$·52 | 53° 2′ 59″·0 |
| 1900. | | |
| 5183 Oct. 26 | −″·09 | −″·16 |
| 5184 ,, | −·06 | −·01 |
| 5185 ,, | +·10 | −·18 |
| 5186 ,, | +·05 | −·17 |
| 5187 ,, | −·01 | −·04 |
| 5189 ,, | −·05 | −·14 |
| 5190 ,, | −·10 | −·11 |
| 5191 Oct. 27 | +·07 | −·22 |
| 5192 ,, | +·01 | −·19 |
| 5193 ,, | −·09 | −·23 |
| 5200 ,, | +·04 | −·10 |
| 5201 ,, | −·18 | −·13 |
| 5202 ,, | −·14 | −·10 |
| 5203 ,, | −·05 | −·18 |
| 5204 Oct. 28 | −·18 | +·20 |
| 5205 Oct. 29 | +·06 | +·04 |
| 5206 ,, | −·11 | +·10 |
| 5207 Oct. 31 | −·22 | −·24 |
| 5208 ,, | −·16 | −·32 |
| Mean | −·07 | −·10 |
| Red$^{n}$. to L. | −·08 | −·07 |
| Deduced……… | 2$^{h}$ 20$^{m}$ 30$^{s}$·537 | 53° 2′ 59″·17 |

### + 34° 437.

| Plate No. and Date. | R.A. 1900·0. | Dec. N. 1900·0. |
|---|---|---|
| Provisional…… | 2$^{h}$ 20$^{m}$ 45$^{s}$·21 | 35° 9′ 50″·4 |
| 1901. | | |
| 5349 Jan. 8 | −″·49 | +″·07 |
| 5350 ,, | −·65 | +·07 |
| 5351 ,, | −·77 | +·03 |
| 5352 ,, | −·64 | ·00 |
| Mean | −·64 | +·04 |
| Red$^{n}$. to L. | +·01 | +·03 |
| Deduced……… | 2$^{h}$ 20$^{m}$ 45$^{s}$·260 | 35° 9′ 50″·33 |

### + 54° 554.

| Plate No. and Date. | R.A. 1900·0. | Dec. N. 1900·0. |
|---|---|---|
| Provisional…… | 2$^{h}$ 21$^{m}$ 46$^{s}$·72 | 54° 31′ 35″·8 |
| 1900. | | |
| 5207 Oct. 31 | +″·24 | +″·56 |
| 5208 ,, | +·42 | +·56 |
| Mean | +·33 | +·56 |
| Red$^{n}$. to L. | −·08 | −·05 |
| Deduced……… | 2$^{h}$ 21$^{m}$ 46$^{s}$·692 | 54° 31′ 35″·29 |

### + 52° 585.

| Plate No. and Date. | R.A. 1900·0. | Dec. N. 1900·0. |
|---|---|---|
| Provisional…… | 2$^{h}$ 21$^{m}$ 54$^{s}$·80 | 53° 5′ 37″·0 |
| 1900. | | |
| 5183 Oct. 26 | +″·18 | −″·26 |
| 5184 ,, | +·46 | −·19 |
| 5185 ,, | +·49 | −·29 |
| 5186 ,, | +·41 | −·12 |
| 5187 ,, | +·35 | −·27 |
| 5189 ,, | +·34 | −·11 |
| 5190 ,, | +·33 | −·12 |
| 5191 Oct. 27 | +·40 | −·25 |
| 5192 ,, | +·46 | −·21 |
| 5193 ,, | +·46 | −·20 |
| 5200 ,, | +·52 | −·15 |
| 5201 ,, | +·27 | −·18 |
| 5202 ,, | +·31 | −·10 |
| 5203 ,, | +·34 | −·21 |
| 5204 Oct. 28 | +·27 | −·17 |
| 5205 Oct. 29 | +·20 | −·11 |
| 5206 ,, | +·28 | −·02 |
| Mean | +·34 | −·17 |
| Red$^{n}$. to L. | −·08 | −·07 |
| Deduced……… | 2$^{h}$ 21$^{m}$ 54$^{s}$·771 | 53° 5′ 37″·24 |

### + 35° 477.

| Plate No. and Date. | R.A. 1900·0. | Dec. N. 1900·0. |
|---|---|---|
| Provisional…… | 2$^{h}$ 22$^{m}$ 1$^{s}$·27 | 35° 29′ 1″·8 |
| 1901. | | |
| 5349 Jan. 8 | +″·15 | +″·06 |
| 5350 ,, | +·04 | −·06 |
| 5351 ,, | +·12 | −·15 |
| 5352 ,, | +·21 | −·06 |
| Mean | +·13 | −·05 |
| Red$^{n}$. to L. | +·01 | +·03 |
| Deduced……… | 2$^{h}$ 22$^{m}$ 1$^{s}$·259 | 35° 29′ 1″·82 |

### + 34° 442.

| Plate No. and Date. | R.A. 1900·0. | Dec. N. 1900·0. |
|---|---|---|
| Provisional…… | 2$^{h}$ 22$^{m}$ 26$^{s}$·92 | 34° 51′ 0″·5 |
| 1901. | | |
| 5349 Jan. 8 | +″·03 | −″·18 |
| 5350 ,, | −·13 | −·15 |
| 5351 ,, | −·33 | −·19 |
| 5352 ,, | −·17 | −·21 |
| 5353 Jan. 9 | ·00 | −·32 |
| 5354 ,, | +·09 | −·27 |
| 5355 ,, | +·13 | −·30 |
| 5356 ,, | −·08 | −·23 |
| Mean | −·06 | −·23 |
| Red$^{n}$. to L. | ·00 | +·03 |
| Deduced……… | 2$^{h}$ 22$^{m}$ 26$^{s}$·925 | 34° 51′ 0″·70 |

### + 35° 480.

| Plate No. and Date. | R.A. 1900·0. | Dec. N. 1900·0. |
|---|---|---|
| Provisional…… | 2$^{h}$ 22$^{m}$ 51$^{s}$·17 | 35° 13′ 12″·2 |
| 1901. | | |
| 5349 Jan. 8 | +″·54 | −″·16 |
| 5353 Jan. 9 | +·32* | −·16* |
| 5354 ,, | +·40* | −·18* |
| 5355 ,, | +·40* | −·19* |
| 5356 ,, | +·36* | −·16* |
| Mean | +·43 | −·17 |
| Red$^{n}$. to L. | ·00 | +·03 |
| Deduced……… | 2$^{h}$ 22$^{m}$ 51$^{s}$·135 | 35° 13′ 12″·34 |

---

* Weight ½ has been given to these results, the star being between 55′ and 60′ from the centre of the plate.

† Not used in forming the mean, the star being more than 60′ from the centre of the plate.

## TABLE VI.—Residuals from Photographs and Deduced Places of Reference Stars.

+ 52° 587.

| Plate No. and Date. | | R.A. 1900·0. | Dec. N. 1900·0. |
|---|---|---|---|
| Provisional…… | | $2^{h}\ 22^{m}\ 52^{s}{\cdot}54$ | 52° 36′ 52″·8 |
| | 1900. | | |
| 5183 | Oct. 26 | +″·02 | −″·17 |
| 5184 | ,, | −·01 | +·01 |
| 5185 | ,, | +·02 | −·04 |
| 5186 | ,, | ·00 | −·05 |
| 5187 | ,, | −·02 | −·03 |
| 5189 | ,, | −·14 | +·06 |
| 5190 | ,, | −·12 | +·12 |
| 5191 | Oct. 27 | −·21 | +·14 |
| 5192 | ,, | −·26 | +·12 |
| 5193 | ,, | −·04 | −·03 |
| 5200 | ,, | −·06 | +·01 |
| 5201 | ,, | +·05 | −·09 |
| 5202 | ,, | −·03 | ·00 |
| 5203 | ,, | +·02 | −·02 |
| 5204 | Oct. 28 | −·22 | −·11 |
| 5205 | Oct. 29 | −·10 | +·09 |
| 5206 | ,, | −·15 | +·15 |
| | | Mean −·09 | +·01 |
| | | Red$^{n}$. to L. −·08 | −·07 |
| Deduced……… | | $2^{h}\ 22^{m}\ 52^{s}{\cdot}559$ | 52° 36′ 52″·86 |

+ 53° 532.

| Plate No. and Date. | | R.A. 1900·0. | Dec. N. 1900·0. |
|---|---|---|---|
| Provisional…… | | $2^{h}\ 23^{m}\ 5^{s}{\cdot}27$ | 53° 24′ 20″·5 |
| | 1900. | | |
| 5183 | Oct. 26 | +″·12 | +″·43 |
| 5184 | ,, | −·03 | +·36 |
| 5185 | ,, | −·03 | +·24 |
| 5186 | ,, | −·09 | +·41 |
| 5187 | ,, | −·05 | +·26 |
| 5189 | ,, | +·23 | +·25 |
| 5190 | ,, | +·26 | +·19 |
| 5191 | Oct. 27 | +·12 | +·36 |
| 5192 | ,, | +·18 | +·30 |
| 5193 | ,, | −·01 | +·33 |
| 5200 | ,, | −·19 | +·12 |
| 5201 | ,, | −·15 | +·30 |
| 5202 | ,, | −·04 | +·19 |
| 5203 | ,, | −·05 | +·21 |
| 5204 | Oct. 28 | −·15 | +·26 |
| 5205 | Oct. 29 | +·08 | +·15 |
| 5206 | ,, | +·01 | +·28 |
| | | Mean +·01 | +·27 |
| | | Red$^{n}$. to L. −·08 | −·07 |
| Deduced……… | | $2^{h}\ 23^{m}\ 5^{s}{\cdot}278$ | 53° 24′ 20″·30 |

+ 35° 490.

| Plate No. and Date. | | R.A. 1900·0. | Dec. N. 1900·0. |
|---|---|---|---|
| Provisional…… | | $2^{h}\ 24^{m}\ 41^{s}{\cdot}80$ | 35° 40′ 21″·3 |
| | 1901. | | |
| 5349 | Jan. 8 | ″·00 | −″·01 |
| 5350 | ,, | +·10 | −·07 |
| 5351 | ,, | +·03 | −·13 |
| 5352 | ,, | +·04 | −·12 |
| | | Mean +·04 | −·08 |
| | | Red$^{n}$. to L. +·01 | +·03 |
| Deduced……… | | $2^{h}\ 24^{m}\ 41^{s}{\cdot}795$ | 35° 40′ 21″·35 |

+ 33° 447.

| Plate No. and Date. | | R.A. 1900·0. | Dec. N. 1900·0. |
|---|---|---|---|
| Provisional…… | | $2^{h}\ 24^{m}\ 58^{s}{\cdot}02$ | 33° 54′ 55″·1 |
| | 1901. | | |
| 5353 | Jan. 9 | +″·19 | ″·00 |
| 5354 | ,, | +·44 | −·07 |
| 5355 | ,, | +·31 | −·09 |
| 5356 | ,, | +·17 | −·11 |
| | | Mean +·28 | −·07 |
| | | Red$^{n}$. to L. ·00 | +·03 |
| Deduced……… | | $2^{h}\ 24^{m}\ 57^{s}{\cdot}998$ | 33° 54′ 55″·14 |

+ 52° 592.

| Plate No. and Date. | | R.A. 1900·0. | Dec. N. 1900·0. |
|---|---|---|---|
| Provisional…… | | $2^{h}\ 25^{m}\ 3^{s}{\cdot}16$ | 52° 23′ 27″·7 |
| | 1900. | | |
| 5183 | Oct. 26 | +″·37 | −″·15 |
| 5184 | ,, | +·19 | −·21 |
| 5185 | ,, | +·20 | −·16 |
| 5186 | ,, | +·14 | −·01 |
| 5187 | ,, | +·12 | −·18 |
| 5189 | ,, | −·04 | −·05 |
| 5190 | ,, | −·01 | −·24 |
| 5191 | Oct. 27 | +·01 | +·20 |
| 5192 | ,, | −·12 | +·04 |
| 5193 | ,, | +·06 | +·03 |
| 5200 | ,, | +·16 | −·19 |
| 5201 | ,, | +·13 | −·25 |
| 5202 | ,, | −·05 | −·19 |
| 5203 | ,, | +·11 | −·11 |
| | | Mean +·09 | −·11 |
| | | Red$^{n}$. to L. −·08 | −·07 |
| Deduced……… | | $2^{h}\ 25^{m}\ 3^{s}{\cdot}159$ | 52° 23′ 27″·88 |

+ 34° 448.

| Plate No. and Date. | | R.A. 1900·0. | Dec. N. 1900·0. |
|---|---|---|---|
| Provisional…… | | $2^{h}\ 25^{m}\ 4^{s}{\cdot}16$ | 34° 29′ 14″·8 |
| | 1901. | | |
| 5349 | Jan. 8 | +″·09 | +″·15 |
| 5350 | ,, | +·14 | +·12 |
| 5351 | ,, | −·04 | +·03 |
| 5352 | ,, | −·03 | +·11 |
| 5353 | Jan. 9 | −·01 | +·20 |
| 5354 | ,, | +·05 | +·25 |
| 5355 | ,, | −·09 | +·12 |
| 5356 | ,, | −·20 | +·27 |
| | | Mean −·01 | +·15 |
| | | Red$^{n}$. to L. +·01 | +·03 |
| Deduced……… | | $2^{h}\ 25^{m}\ 4^{s}{\cdot}160$ | 34° 29′ 14″·62 |

+ 35° 494.

| Plate No. and Date. | | R.A. 1900·0. | Dec. N. 1900·0. |
|---|---|---|---|
| Provisional…… | | $2^{h}\ 25^{m}\ 5^{s}{\cdot}05$ | 35° 18′ 44″·8 |
| | 1901. | | |
| 5350 | Jan. 8 | +″·65 | −″·01 |
| 5351 | ,, | +·62 | −·19 |
| 5352 | ,, | +·65 | +·06 |
| 5353 | Jan. 9 | +·30 | −·08 |
| 5356 | ,, | +·36 | +·17 |
| | | Mean +·51 | −·01 |
| | | Red$^{n}$. to L. +·01 | +·03 |
| Deduced……… | | $2^{h}\ 25^{m}\ 5^{s}{\cdot}008$ | 35° 18′ 44″·78 |

+ 34° 449.

| Plate No. and Date. | | R.A. 1900·0. | Dec. N. 1900·0. |
|---|---|---|---|
| Provisional…… | | $2^{h}\ 25^{m}\ 6^{s}{\cdot}75$ | 34° 57′ 20″·6 |
| | 1901. | | |
| 5349 | Jan. 8 | +″·13 | +″·22 |
| 5350 | ,, | +·24 | +·04 |
| 5351 | ,, | +·20 | +·13 |
| 5352 | ,, | +·14 | +·10 |
| 5353 | Jan. 9 | +·15 | −·16 |
| 5354 | ,, | +·08 | +·01 |
| 5355 | ,, | +·18 | +·11 |
| 5356 | ,, | −·04 | +·07 |
| | | Mean +·14 | +·07 |
| | | Red$^{n}$. to L. +·01 | +·03 |
| Deduced……… | | $2^{h}\ 25^{m}\ 6^{s}{\cdot}738$ | 34° 57′ 20″·50 |

---

* Weight ½ has been given to these results, the star being between 55′ and 60′ from the centre of the plate.
† Not used in forming the mean, the star being more than 60′ from the centre of the plate.

## TABLE VI.—Residuals from Photographs and Deduced Places of Reference Stars.

### + 53° 539.

| Plate No. and Date. | R.A. 1900·0. | Dec. N. 1900·0. |
|---|---|---|
| Provisional...... | $2^{h}\ 25^{m}\ 29^{s}{\cdot}98$ | 53° 51′ 59″·8 |
| 1900. | | |
| 5183 Oct. 26 | +″·36† | −″·36† |
| 5184 ,, | +·44† | −·18† |
| 5185 ,, | +·19† | −·42† |
| 5186 ,, | +·11† | −·26† |
| 5187 ,, | +·18† | −·15† |
| 5189 ,, | +·13† | −·40† |
| 5190 ,, | +·06† | −·25† |
| 5191 Oct. 27 | +·32 | −·32 |
| 5192 ,, | +·50 | −·36 |
| 5193 ,, | +·21 | −·12 |
| 5200 ,, | +·14 | −·30 |
| 5201 ,, | +·27 | −·06 |
| 5202 ,, | +·09 | −·16 |
| 5203 ,, | −·01 | −·21 |
| 5204 Oct. 28 | +·20 | −·29 |
| 5205 Oct. 29 | +·07 | −·25 |
| 5206 ,, | +·18 | −·22 |
| Mean | +·19 | −·24 |
| Redⁿ. to L. | −·08 | −·08 |
| Deduced......... | $2^{h}\ 25^{m}\ 29^{s}{\cdot}968$ | 53° 52′ 0″·12 |

### + 53° 540.

| Plate No. and Date. | R.A. 1900·0. | Dec. N. 1900·0. |
|---|---|---|
| Provisional...... | $2^{h}\ 25^{m}\ 49^{s}{\cdot}24$ | 53° 32′ 5″·6 |
| 1900. | | |
| 5183 Oct. 26 | +″·09 | +″·20 |
| 5184 ,, | −·01 | +·22 |
| 5185 ,, | −·01 | +·15 |
| 5186 ,, | −·02 | ·00 |
| 5187 ,, | −·04 | +·14 |
| 5189 ,, | −·01 | +·20 |
| 5190 ,, | −·28 | +·17 |
| 5191 Oct. 27 | −·20 | +·11 |
| 5192 ,, | −·05 | +·08 |
| 5193 ,, | −·20 | +·34 |
| 5200 ,, | −·11 | +·24 |
| 5201 ,, | −·03 | +·09 |
| 5202 ,, | −·15 | +·11 |
| 5203 ,, | −·17 | +·19 |
| 5204 Oct. 28 | +·08 | +·03 |
| Mean | −·06 | +·14 |
| Redⁿ. to L. | −·08 | −·07 |
| Deduced......... | $2^{h}\ 25^{m}\ 49^{s}{\cdot}255$ | 53° 32′ 5″·53 |

### + 34° 454.

| Plate No. and Date. | R.A. 1900·0. | Dec. N. 1900·0. |
|---|---|---|
| Provisional...... | $2^{h}\ 26^{m}\ 3^{s}{\cdot}34$ | 34° 14′ 9″·7 |
| 1901. | | |
| 5353 Jan. 9 | −″·31 | +″·26 |
| 5354 ,, | −·29 | +·26 |
| 5355 ,, | −·42 | +·30 |
| 5356 ,, | −·29 | +·35 |
| Mean | −·33 | +·29 |
| Redⁿ. to L. | ·00 | +·03 |
| Deduced......... | $2^{h}\ 26^{m}\ 3^{s}{\cdot}366$ | 34° 14′ 9″·38 |

### + 34° 457.

| Plate No. and Date. | R.A. 1900·0. | Dec. N. 1900·0. |
|---|---|---|
| Provisional...... | $2^{h}\ 26^{m}\ 29^{s}{\cdot}24$ | 34° 50′ 17″·8 |
| 1901. | | |
| 5349 Jan. 8 | +″·21 | −″·03 |
| 5350 ,, | +·10 | −·05 |
| 5351 ,, | +·14 | −·23 |
| 5352 ,, | +·34 | −·03 |
| 5353 Jan. 9 | +·04 | −·24 |
| 5354 ,, | −·01 | −·28 |
| 5355 ,, | −·17 | −·22 |
| 5356 ,, | −·11 | −·24 |
| Mean | +·07 | −·17 |
| Redⁿ. to L. | +·01 | +·03 |
| Deduced......... | $2^{h}\ 26^{m}\ 29^{s}{\cdot}234$ | 34° 50′ 17″·94 |

### + 33° 454.

| Plate No. and Date. | R.A. 1900·0. | Dec. N. 1900·0. |
|---|---|---|
| Provisional...... | $2^{h}\ 26^{m}\ 50^{s}{\cdot}25$ | 34° 6′ 3″·8 |
| 1901. | | |
| 5353 Jan. 9 | −″·24 | +″·17 |
| 5354 ,, | −·29 | −·13 |
| 5355 ,, | −·11 | −·09 |
| 5356 ,, | −·25 | −·14 |
| Mean | −·22 | −·05 |
| Redⁿ. to L. | ·00 | +·03 |
| Deduced......... | $2^{h}\ 26^{m}\ 50^{s}{\cdot}267$ | 34° 6′ 3″·82 |

### + 52° 595.

| Plate No. and Date. | R.A. 1900·0. | Dec. N. 1900·0. |
|---|---|---|
| Provisional...... | $2^{h}\ 27^{m}\ 16^{s}{\cdot}86$ | 52° 23′ 26″·0 |
| 1900. | | |
| 5183 Oct. 26 | +″·04 | +″·14 |
| 5184 ,, | +·09 | +·10 |
| 5185 ,, | +·15 | +·07 |
| 5186 ,, | −·04 | −·01 |
| 5187 ,, | +·06 | −·07 |
| 5189 ,, | −·18 | +·11 |
| 5190 ,, | +·06 | +·05 |
| 5191 Oct. 27 | −·07 | +·18 |
| 5192 ,, | −·21 | +·21 |
| 5193 ,, | +·17 | +·29 |
| 5200 ,, | +·04 | +·03 |
| 5201 ,, | +·20 | −·12 |
| 5202 ,, | +·21 | −·01 |
| 5203 ,, | +·34 | +·01 |
| Mean | +·06 | +·07 |
| Redⁿ. to L. | −·08 | −·07 |
| Deduced......... | $2^{h}\ 27^{m}\ 16^{s}{\cdot}862$ | 52° 23′ 26″·00 |

### + 52° 597.

| Plate No. and Date. | R.A. 1900·0. | Dec. N. 1900·0. |
|---|---|---|
| Provisional...... | $2^{h}\ 27^{m}\ 23^{s}{\cdot}00$ | 52° 57′ 54″·1 |
| 1900. | | |
| 5183 Oct. 26 | +″·37 | −″·11 |
| 5184 ,, | +·29 | ·00 |
| 5185 ,, | +·28 | −·02 |
| 5186 ,, | +·27 | +·08 |
| 5187 ,, | +·21 | +·03 |
| 5189 ,, | +·26 | +·31 |
| 5190 ,, | +·35 | +·11 |
| 5191 Oct. 27 | +·11 | −·22 |
| 5192 ,, | +·18 | −·06 |
| 5193 ,, | +·44 | +·10 |
| 5200 ,, | +·36 | +·32 |
| 5201 ,, | +·30 | +·27 |
| 5202 ,, | +·41 | +·12 |
| 5203 ,, | +·39 | +·14 |
| 5204 Oct. 28 | +·29 | −·02 |
| Mean | +·30 | +·07 |
| Redⁿ. to L. | −·08 | −·07 |
| Deduced......... | $2^{h}\ 27^{m}\ 22^{s}{\cdot}976$ | 52° 57′ 54″·10 |

---

* Weight ½ has been given to these results, the star being between 55′ and 60′ from the centre of the plate.

† Not used in forming the mean, the star being more than 60′ from the centre of the plate.

## TABLE VI.—Residuals from Photographs and Deduced Places of Reference Stars.

**+ 34° 462.**

| Plate No. and Date. | R.A. 1900·0. | Dec. N. 1900·0. |
|---|---|---|
| Provisional...... | $2^{\mathrm{h}}\,28^{\mathrm{m}}\,12^{\mathrm{s}}{\cdot}89$ | 34° 42′ 41″·2 |
| 1901. | ″ | ″ |
| 5353 Jan. 9 | −·23 | +·13 |
| 5354 ,, | −·26 | +·21 |
| 5355 ,, | −·15 | +·35 |
| 5356 ,, | −·50 | +·32 |
| Mean | −·29 | +·25 |
| Red$^{\mathrm{n}}$. to L. | ·00 | +·03 |
| Deduced......... | $2^{\mathrm{h}}\,28^{\mathrm{m}}\,12^{\mathrm{s}}{\cdot}913$ | 34° 42′ 40″·92 |

**+ 50° 587.**

| Plate No. and Date. | R.A. 1900·0. | Dec. N. 1900·0. |
|---|---|---|
| Provisional...... | $2^{\mathrm{h}}\,28^{\mathrm{m}}\,23^{\mathrm{s}}{\cdot}84$ | 50° 45′ 2″·4 |
| 1900. | ″ | ″ |
| 5169 Oct. 20 | +·47 | +·15 |
| 5170 ,, | −·01 | +·10 |
| 5172 ,, | +·30 | −·03 |
| 5173 Oct. 21 | −·31 | −·35 |
| 5174 ,, | −·14 | −·21 |
| 5177 ,, | +·38 | +·19 |
| 5178 ,, | −·03 | +·21 |
| 5179 ,, | +·36 | +·20 |
| Mean | +·15 | +·04 |
| Red$^{\mathrm{n}}$. to L. | −·02 | ·00 |
| Deduced......... | $2^{\mathrm{h}}\,28^{\mathrm{m}}\,23^{\mathrm{s}}{\cdot}826$ | 50° 45′ 2″·36 |

**+ 53° 546.**

| Plate No. and Date. | R.A. 1900·0. | Dec. N. 1900·0. |
|---|---|---|
| Provisional...... | $2^{\mathrm{h}}\,28^{\mathrm{m}}\,31^{\mathrm{s}}{\cdot}85$ | 53° 14′ 57″·6 |
| 1900. | ″ | ″ |
| 5183 Oct. 26 | +·02 | −·23 |
| 5184 ,, | −·15 | −·05 |
| 5185 ,, | −·13 | −·07 |
| 5186 ,, | −·19 | −·06 |
| 5187 ,, | −·17 | −·21 |
| 5189 ,, | −·18 | +·05 |
| 5190 ,, | −·10 | −·13 |
| 5191 Oct. 27 | −·10 | −·13 |
| 5192 ,, | −·28 | −·20 |
| 5193 ,, | −·16 | +·06 |
| 5200 ,, | −·03 | +·20 |
| 5201 ,, | +·15 | +·17 |

**+ 53° 546—*contd.***

| Plate No. and Date. | R.A. 1900·0. | Dec. N. 1900·0. |
|---|---|---|
| 1900. | ″ | ″ |
| 5202 Oct. 27 | +·01 | +·07 |
| 5203 ,, | −·07 | +·25 |
| 5204 Oct. 28 | −·03 | −·22 |
| Mean | −·09 | −·05 |
| Red$^{\mathrm{n}}$. to L. | −·08 | −·07 |
| Deduced......... | $2^{\mathrm{h}}\,28^{\mathrm{m}}\,31^{\mathrm{s}}{\cdot}869$ | 53° 14′ 57″·72 |

**+ 53° 547.**

| Plate No. and Date. | R.A. 1900·0. | Dec. N. 1900·0. |
|---|---|---|
| Provisional...... | $2^{\mathrm{h}}\,28^{\mathrm{m}}\,34^{\mathrm{s}}{\cdot}66$ | 53° 52′ 42″·6 |
| 1900. | ″ | ″ |
| 5183 Oct. 26 | +·31 | −·15 |
| 5184 ,, | +·08 | −·42 |
| 5185 ,, | +·10 | +·06 |
| 5186 ,, | +·23 | +·12 |
| 5187 ,, | +·52 | +·24 |
| 5189 ,, | +·06 | −·19 |
| 5190 ,, | +·39 | −·13 |
| Mean | +·24 | −·07 |
| Red$^{\mathrm{n}}$. to L. | −·08 | −·07 |
| Deduced......... | $2^{\mathrm{h}}\,28^{\mathrm{m}}\,34^{\mathrm{s}}{\cdot}642$ | 53° 52′ 42″·74 |

**+ 51° 598.**

| Plate No. and Date. | R.A. 1900·0. | Dec. N. 1900·0. |
|---|---|---|
| Provisional...... | $2^{\mathrm{h}}\,29^{\mathrm{m}}\,15^{\mathrm{s}}{\cdot}62$ | 52° 2′ 59″·3 |
| 1900. | ″ | ″ |
| 5169 Oct. 20 | −·62† | +·35† |
| 5170 ,, | −·71† | +·62† |
| 5172 ,, | −·63† | +·51† |
| 5173 Oct. 21 | −·65 | +·41 |
| 5174 ,, | −·68 | +·45 |
| 5177 ,, | −·48 | +·31 |
| 5178 ,, | −·77 | +·45 |
| 5179 ,, | −·54 | +·46 |
| 5183 Oct. 26 | −·28* | +·17* |
| 5184 ,, | −·33* | +·10* |
| 5185 ,, | −·15* | −·03* |
| 5186 ,, | +·02* | −·18* |
| 5187 ,, | −·13* | −·32* |
| 5189 ,, | −·01* | +·04* |
| 5190 ,, | +·04* | −·10* |
| Mean | −·39 | +·20 |
| Red$^{\mathrm{n}}$. to L. | −·05 | −·03 |
| Deduced......... | $2^{\mathrm{h}}\,29^{\mathrm{m}}\,15^{\mathrm{s}}{\cdot}667$ | 52° 2′ 59″·13 |

**+ 34° 469.**

| Plate No. and Date. | R.A. 1900·0. | Dec. N. 1900·0. |
|---|---|---|
| Provisional...... | $2^{\mathrm{h}}\,29^{\mathrm{m}}\,42^{\mathrm{s}}{\cdot}58$ | 34° 15′ 5″·0 |
| 1901. | ″ | ″ |
| 5353 Jan. 9 | +·04 | +·24 |
| 5354 ,, | +·11 | +·10 |
| 5355 ,, | +·22 | −·01 |
| 5356 ,, | +·40 | −·07 |
| Mean | +·19 | +·07 |
| Red$^{\mathrm{n}}$. to L. | ·00 | +·03 |
| Deduced......... | $2^{\mathrm{h}}\,29^{\mathrm{m}}\,42^{\mathrm{s}}{\cdot}565$ | 34° 15′ 4″·90 |

**+ 34° 471.**

| Plate No. and Date. | R.A. 1900·0. | Dec. N. 1900·0. |
|---|---|---|
| Provisional...... | $2^{\mathrm{h}}\,29^{\mathrm{m}}\,45^{\mathrm{s}}{\cdot}98$ | 34° 17′ 17″·7 |
| 1901. | ″ | ″ |
| 5353 Jan. 9 | −·26 | −·04 |
| 5354 ,, | −·29 | +·09 |
| 5355 ,, | −·28 | +·03 |
| 5356 ,, | +·18 | −·18 |
| Mean | −·16 | −·03 |
| Red$^{\mathrm{n}}$. to L. | ·00 | +·03 |
| Deduced......... | $2^{\mathrm{h}}\,29^{\mathrm{m}}\,45^{\mathrm{s}}{\cdot}993$ | 34° 17′ 17″·70 |

**+ 51° 599.**

| Plate No. and Date. | R.A. 1900·0. | Dec. N. 1900·0. |
|---|---|---|
| Provisional...... | $2^{\mathrm{h}}\,29^{\mathrm{m}}\,55^{\mathrm{s}}{\cdot}79$ | 51° 31′ 28″·6 |
| 1900. | ″ | ″ |
| 5169 Oct. 20 | −·41 | −·18 |
| 5170 ,, | −·45 | −·12 |
| 5172 ,, | −·34 | −·18 |
| 5173 Oct. 21 | −·30 | −·18 |
| 5174 ,, | −·39 | −·30 |
| 5177 ,, | −·45 | −·16 |
| 5179 ,, | −·49 | −·26 |
| Mean | −·41 | −·20 |
| Red$^{\mathrm{n}}$. to L. | −·02 | ·00 |
| Deduced......... | $2^{\mathrm{h}}\,29^{\mathrm{m}}\,55^{\mathrm{s}}{\cdot}836$ | 51° 31′ 28″·80 |

---

* Weight ½ has been given to these results, the star being between 55′ and 60′ from the centre of the plate.

† Not used in forming the mean, the star being more than 60′ from the centre of the plate.

TABLE VI.—Residuals from Photographs and Deduced Places of Reference Stars.

| Plate No. and Date. | R.A. 1900·0. | Dec. N. 1900·0. |
|---|---|---|
| + 52° 602. | | |
| Provisional...... | 2$^{h}$ 30$^{m}$ 52$^{s}$·48 | 52° 22′ 39″·6 |
| 1900. | | |
| 5173 Oct. 21 | −″·09 | +″·06 |
| 5174 „ | +·13 | −·03 |
| 5177 „ | −·10 | −·09 |
| 5178 „ | −·56 | +·09 |
| 5179 „ | −·30 | +·06 |
| 5183 Oct. 26 | +·05 | +·05 |
| 5184 „ | −·23 | +·02 |
| 5185 „ | −·17 | +·29 |
| 5186 „ | −·17 | −·06 |
| 5187 „ | −·07 | +·05 |
| 5189 „ | −·06 | −·16 |
| 5190 „ | +·17 | −·03 |
| | Mean −·13 | +·02 |
| | Red$^{n}$. to L. −·05 | −·03 |
| Deduced......... | 2$^{h}$ 30$^{m}$ 52$^{s}$·499 | 52° 22′ 39″·61 |
| + 50° 589. | | |
| Provisional...... | 2$^{h}$ 31$^{m}$ 23$^{s}$·08 | 50° 26′ 0″·8 |
| 1900. | | |
| 5169 Oct. 20 | −″·31 | −″·40 |
| 5170 „ | −·36 | −·64 |
| 5172 „ | −·15 | −·41 |
| | Mean −·27 | −·48 |
| | Red$^{n}$. to L. −·02 | ·00 |
| Deduced......... | 2$^{h}$ 31$^{m}$ 23$^{s}$·110 | 50° 26′ 1″·28 |
| + 51° 604. | | |
| Provisional...... | 2$^{h}$ 31$^{m}$ 37$^{s}$·44 | 51° 38′ 37″·5 |
| 1900. | | |
| 5169 Oct. 20 | +″·43 | −″·25 |
| 5170 „ | +·23 | −·16 |
| 5172 „ | +·12 | −·10 |
| 5173 Oct. 21 | +·17 | −·14 |
| 5174 „ | +·12 | −·33 |
| 5177 „ | +·16 | −·13 |
| 5178 „ | ·00 | −·21 |
| 5179 „ | +·04 | −·41 |
| | Mean +·17 | −·21 |
| | Red$^{n}$. to L. −·02 | ·00 |
| Deduced......... | 2$^{h}$ 31$^{m}$ 37$^{s}$·424 | 51° 38′ 37″·71 |
| + 50° 601. | | |
| Provisional...... | 2$^{h}$ 33$^{m}$ 42$^{s}$·64 | 51° 11′ 34″·0 |
| 1900. | | |
| 5169 Oct. 20 | −″·22 | +″·46 |
| 5170 „ | −·06 | +·28 |
| 5172 „ | −·17 | +·66 |
| 5173 Oct. 21 | −·10 | +·42 |
| 5174 „ | −·17 | +·41 |
| 5177 „ | −·46 | +·36 |
| 5178 „ | −·60 | +·12 |
| 5179 „ | −·56 | +·47 |
| | Mean −·28 | +·41 |
| | Red$^{n}$. to L. −·02 | ·00 |
| Deduced......... | 2$^{h}$ 33$^{m}$ 42$^{s}$·672 | 51° 11′ 33″·59 |
| + 32° 483. | | |
| Provisional...... | 2$^{h}$ 33$^{m}$ 45$^{s}$·70 | 33° 3′ 52″·7 |
| 1901. | | |
| 5359 Jan. 13 | −″·41 | +″·28 |
| | Red$^{n}$. to L. +·03 | −·03 |
| Deduced......... | 2$^{h}$ 33$^{m}$ 45$^{s}$·730 | 33° 3′ 52″·45 |
| + 33° 481. | | |
| Provisional...... | 2$^{h}$ 33$^{m}$ 46$^{s}$·99 | 33° 31′ 5″·9 |
| 1901. | | |
| 5359 Jan. 13 | +″·26 | +″·14 |
| | Red$^{n}$. to L. +·03 | −·03 |
| Deduced......... | 2$^{h}$ 33$^{m}$ 46$^{s}$·967 | 33° 31′ 5″·79 |
| + 32° 484. | | |
| Provisional...... | 2$^{h}$ 33$^{m}$ 49$^{s}$·62 | 32° 23′ 1″·4 |
| 1901. | | |
| 5359 Jan. 13 | +″·06 | +″·21 |
| | Red$^{n}$. to L. +·03 | −·03 |
| Deduced......... | 2$^{h}$ 33$^{m}$ 49$^{s}$·613 | 32° 23′ 1″·22 |
| + 49° 741. | | |
| Provisional...... | 2$^{h}$ 34$^{m}$ 18$^{s}$·30 | 49° 34′ 56″·1 |
| 1900. | | |
| 5160 Oct. 14 | +″·46 | +″·09 |
| 5161 „ | +·48 | +·03 |
| 5162 Oct. 15 | +·16 | +·02 |
| | Mean +·35 | +·04 |
| | Red$^{n}$. to L. +·01 | +·02 |
| Deduced......... | 2$^{h}$ 34$^{m}$ 18$^{s}$·263 | 49° 34′ 56″·04 |
| + 49° 743. | | |
| Provisional...... | 2$^{h}$ 34$^{m}$ 24$^{s}$·98 | 49° 41′ 21″·1 |
| 1900. | | |
| 5160 Oct. 14 | +″·32 | +″·21 |
| 5161 „ | +·26 | +·03 |
| 5162 Oct. 15 | −·11 | −·21 |
| | Mean +·13 | −·01 |
| | Red$^{n}$. to L. +·01 | +·02 |
| Deduced......... | 2$^{h}$ 34$^{m}$ 24$^{s}$·966 | 49° 41′ 21″·09 |
| + 51° 616. | | |
| Provisional...... | 2$^{h}$ 35$^{m}$ 21$^{s}$·67 | 52° 0′ 21″·1 |
| 1900. | | |
| 5169 Oct. 20 | −″·14 | +″·04 |
| 5170 „ | −·11 | +·14 |
| 5172 „ | −·17 | +·07 |
| 5173 Oct. 21 | +·01 | +·04 |
| 5174 „ | +·05 | +·16 |
| 5177 „ | −·36 | +·17 |
| 5178 „ | −·19 | +·12 |
| 5179 „ | −·33 | +·26 |
| | Mean −·15 | +·12 |
| | Red$^{n}$. to L. −·02 | ·00 |
| Deduced......... | 2$^{h}$ 35$^{m}$ 21$^{s}$·688 | 52° 0′ 20″·98 |

* Weight ½ has been given to these results, the star being between 55′ and 60′ from the centre of the plate.
† Not used in forming the mean, the star being more than 60′ from the centre of the plate.

TABLE VI.—Residuals from Photographs and Deduced Places of Reference Stars.

| Plate No. and Date. | R.A. 1900·0. | Dec. N. 1900·0. |
|---|---|---|
| + 51° 618. | | |
| Provisional...... | $2^{h}\ 35^{m}\ 38^{s}\ 84$ | 51° 28′ 31″·2 |
| 1900. | | |
| 5169 Oct. 20 | +″·19 | +″·07 |
| 5170 ,, | +·34 | +·20 |
| 5172 ,, | +·29 | −·08 |
| 5173 Oct. 21 | +·06 | −·07 |
| 5174 ,, | +·16 | +·10 |
| 5177 ,, | +·14 | +·02 |
| 5178 ,, | +·39 | −·04 |
| Mean | +·23 | +·03 |
| Red$^{n}$. to L. | −·02 | ·00 |
| Deduced......... | $2^{h}\ 35^{m}\ 38^{s}{\cdot}818$ | 51° 28′ 31″·17 |
| + 52° 617. | | |
| Provisional...... | $2^{h}\ 36^{m}\ 19^{s}{\cdot}72$ | 52° 19′ 47″·7 |
| 1900. | | |
| 5173 Oct. 21 | +″·09 | +″·02 |
| 5174 ,, | +·06 | −·08 |
| 5177 ,, | +·01 | −·08 |
| 5178 ,, | +·16 | +·17 |
| 5179 ,, | +·12 | +·01 |
| Mean | +·09 | +·01 |
| Red$^{n}$. to L. | −·02 | ·00 |
| Deduced......... | $2^{h}\ 36^{m}\ 19^{s}{\cdot}712$ | 52° 19′ 47″·69 |
| + 33° 493. | | |
| Provisional...... | $2^{h}\ 36^{m}\ 31^{s}{\cdot}09$ | 33° 20′ 25″·3 |
| 1901. | | |
| 5359 Jan. 13 | +″·09 | ″·00 |
| Red$^{n}$. to L. | +·03 | −·03 |
| Deduced......... | $2^{h}\ 36^{m}\ 31^{s}{\cdot}080$ | 33° 20′ 25″·33 |
| + 51° 620. | | |
| Provisional...... | $2^{h}\ 36^{m}\ 38^{s}{\cdot}16$ | 51° 59′ 17″·1 |
| 1900. | | |
| 5169 Oct. 20 | +″·43 | +″·01 |
| 5170 ,, | +·64 | +·13 |
| 5172 ,, | +·30 | −·01 |
| + 51° 620—*contd.* | | |
| 1900. | | |
| 5173 Oct. 21 | +″·52 | −″·03 |
| 5174 ,, | +·31 | +·17 |
| 5177 ,, | +·36 | +·14 |
| 5178 ,, | +·54 | +·15 |
| 5179 ,, | +·51 | +·29 |
| Mean | +·45 | +·10 |
| Red$^{n}$. to L. | −·02 | ·00 |
| Deduced......... | $2^{h}\ 36^{m}\ 38^{s}{\cdot}114$ | 51° 59′ 17″·00 |
| + 32° 490. | | |
| Provisional...... | $2^{h}\ 36^{m}\ 38^{s}{\cdot}53$ | 32° 28′ 32″·4 |
| 1901. | | |
| 5359 Jan. 13 | −″·47 | −″·27 |
| 5365 Jan. 14 | +·48† | −·18† |
| 5366 ,, | −·21† | +·02† |
| 5367 ,, | −·22† | −·04† |
| Mean | −·47 | −·27 |
| Red$^{n}$. to L. | +·03 | −·03 |
| Deduced......... | $2^{h}\ 36^{m}\ 38^{s}{\cdot}565$ | 32° 28′ 32″·70 |
| + 50° 613. | | |
| Provisional...... | $2^{h}\ 36^{m}\ 40^{s}{\cdot}18$ | 51° 6′ 29″·1 |
| 1900. | | |
| 5169 Oct. 20 | +″·15 | +″·05 |
| 5170 ,, | +·29 | −·19 |
| 5172 ,, | +·24 | ·00 |
| 5173 Oct. 21 | +·44 | −·07 |
| 5174 ,, | +·28 | −·14 |
| 5177 ,, | +·30 | −·09 |
| 5178 ,, | +·33 | −·38 |
| 5179 ,, | +·22 | −·29 |
| Mean | +·27 | −·12 |
| Red$^{n}$. to L. | −·02 | ·00 |
| Deduced......... | $2^{h}\ 36^{m}\ 40^{s}{\cdot}154$ | 51° 6′ 29″·22 |
| + 49° 752. | | |
| Provisional...... | $2^{h}\ 36^{m}\ 45^{s}{\cdot}91$ | 49° 57′ 33″·9 |
| 1900. | | |
| 5160 Oct. 14 | −″·28 | −″·09 |
| 5161 ,, | −·31 | −·19 |
| 5162 Oct. 15 | −·29 | −·32 |
| Mean | −·30 | −·21 |
| Red$^{n}$. to L. | +·01 | +·02 |
| Deduced......... | $2^{h}\ 36^{m}\ 45^{s}{\cdot}940$ | 49° 57′ 34″·09 |
| + 49° 753. | | |
| Provisional...... | $2^{h}\ 36^{m}\ 47^{s}{\cdot}84$ | 50° 10′ 19″·1 |
| 1900. | | |
| 5160 Oct. 14 | +″·05 | +″·03 |
| 5161 ,, | +·03 | +·10 |
| 5162 Oct. 15 | +·11 | +·04 |
| Mean | +·07 | +·06 |
| Red$^{n}$. to L. | +·01 | +·02 |
| Deduced......... | $2^{h}\ 36^{m}\ 47^{s}{\cdot}832$ | 50° 10′ 19″·02 |
| + 33° 494. | | |
| Provisional...... | $2^{h}\ 37^{m}\ 16^{s}{\cdot}74$ | 33° 44′ 52″·6 |
| 1901. | | |
| 5359 Jan. 13 | −″·23 | −″·06 |
| Red$^{n}$. to L. | +·03 | −·03 |
| Deduced......... | $2^{h}\ 37^{m}\ 16^{s}{\cdot}754$ | 33° 44′ 52″·69 |
| + 50° 617. | | |
| Provisional...... | $2^{h}\ 37^{m}\ 24^{s}{\cdot}19$ | 50° 47′ 57″·4 |
| 1900. | | |
| 5162 Oct. 15 | +″·09* | (+″·76) |
| 5169 Oct. 20 | +·31 | −·22 |
| 5170 ,, | +·33 | −·17 |
| 5172 ,, | +·24 | −·36 |
| 5173 Oct. 21 | +·21† | −·12† |
| 5174 ,, | +·23† | −·18† |

* Weight ½ has been given to these results, the star being between 55′ and 60′ from the centre of the plate.

† Not used in forming the mean, the star being more than 60′ from the centre of the plate.

## TABLE VI.—Residuals from Photographs and Deduced Places of Reference Stars.

| Plate No. and Date. | R.A. 1900·0. | Dec. N. 1900·0. |
|---|---|---|
| **+ 50° 617—*contd.*** | | |
| 1900. | | |
| 5177 Oct. 21 | + ″·56† | − ″·59† |
| 5178 ,, | + ·70† | − ·71† |
| 5179 ,, | +1·00† | − ·84† |
| Mean | + ·25 | − ·25 |
| Red$^{n}$. to L. | − ·02 | + ·01 |
| Deduced……… | 2$^{h}$ 37$^{m}$ 24$^{s}$·166 | 50° 47′ 57″·64 |
| **+ 50° 620.** | | |
| Provisional…… | 2$^{h}$ 38$^{m}$ 4$^{s}$·86 | 50° 18′ 13″·1 |
| 1900. | | |
| 5160 Oct. 14 | − ″·15 | − ″·16 |
| 5161 ,, | ·00 | − ·24 |
| 5162 Oct. 15 | ·00 | − ·07 |
| Mean | − ·05 | − ·15 |
| Red$^{n}$. to L. | + ·01 | + ·02 |
| Deduced……… | 2$^{h}$ 38$^{m}$ 4$^{s}$·864 | 50° 18′ 13″·23 |
| **+ 50° 623.** | | |
| Provisional…… | 2$^{h}$ 38$^{m}$ 32$^{s}$·88 | 51° 9′ 45″·4 |
| 1900. | | |
| 5169 Oct. 20 | − ″·29 | − ″·04 |
| 5170 ,, | − ·15 | − ·21 |
| 5172 ,, | − ·08 | − ·05 |
| Mean | − ·17 | − ·10 |
| Red$^{n}$. to L. | − ·02 | ·00 |
| Deduced……… | 2$^{h}$ 38$^{m}$ 32$^{s}$·900 | 51° 9′ 45″·50 |
| **+ 48° 750.** | | |
| Provisional…… | 2$^{h}$ 38$^{m}$ 56$^{s}$·25 | 48° 32′ 8″·4 |
| 1900. | | |
| 5154 Oct. 10 | − ″·04 | + ″·35 |
| 5160 Oct. 14 | − ·13* | − ·08* |
| 5161 ,, | − ·29* | + ·01* |
| Mean | − ·12 | + ·16 |
| Red$^{n}$. to L. | − ·01 | + ·02 |
| Deduced……… | 2$^{h}$ 38$^{m}$ 56$^{s}$·263 | 48° 32′ 8″·22 |
| **+ 47° 692.** | | |
| Provisional…… | 2$^{h}$ 38$^{m}$ 58$^{s}$·54 | 47° 43′ 15″·9 |
| 1900. | | |
| 5142 Oct. 7 | + ″·38* | − ″·24* |
| 5143 ,, | + ·37* | − ·15* |
| 5145 ,, | + ·56* | − ·17* |
| 5146 ,, | + ·16* | − ·21* |
| 5148 Oct. 8 | + ·66 | − ·39 |
| 5150 ,, | + ·30 | − ·26 |
| 5152 ,, | + ·29 | − ·20 |
| 5154 Oct. 10 | + ·31 | − ·09 |
| Mean | + ·38 | − ·21 |
| Red$^{n}$. to L. | − ·02 | + ·01 |
| Deduced……… | 2$^{h}$ 38$^{m}$ 58$^{s}$·505 | 47° 43′ 16″·10 |
| **+ 32° 498.** | | |
| Provisional…… | 2$^{h}$ 39$^{m}$ 4$^{s}$·31 | 32° 19′ 51″·0 |
| 1901. | | |
| 5359 Jan. 13 | + ″·15 | − ″·10 |
| 5365 Jan. 14 | + ·61 | − ·03 |
| 5366 ,, | + ·61 | − ·10 |
| 5367 ,, | + ·40 | − ·15 |
| Mean | + ·41 | − ·09 |
| Red$^{n}$. to L. | + ·02 | − ·04 |
| Deduced……… | 2$^{h}$ 39$^{m}$ 4$^{s}$·276 | 32° 19′ 51″·13 |
| **+ 46° 628.** | | |
| Provisional…… | 2$^{h}$ 39$^{m}$ 23$^{s}$·00 | 46° 48′ 42″·5 |
| 1900. | | |
| 5138 Oct. 4 | − ″·65† | + ″·77† |
| 5139 ,, | − ·48† | + ·83† |
| 5142 Oct. 7 | − ·23 | − ·03 |
| 5143 ,, | − ·06 | − ·16 |
| 5145 ,, | + ·17 | − ·15 |
| 5146 ,, | − ·01 | + ·02 |
| 5148 Oct. 8 | − ·20* | − ·25* |
| 5150 ,, | − ·16* | − ·07* |
| 5152 ,, | + ·15* | + ·24* |
| Mean | − ·04 | − ·07 |
| Red$^{n}$. to L. | − ·02 | + ·01 |
| Deduced……… | 2$^{h}$ 39$^{m}$ 23$^{s}$·006 | 46° 48′ 42″·56 |
| **+ 50° 627.** | | |
| Provisional…… | 2$^{h}$ 39$^{m}$ 29$^{s}$·41 | 50° 11′ 44″·4 |
| 1900. | | |
| 5160 Oct. 14 | − ″·18 | − ″·07 |
| 5161 ,, | − ·05 | + ·05 |
| 5162 Oct. 15 | + ·09 | − ·36 |
| Mean | − ·04 | − ·15 |
| Red$^{n}$. to L. | + ·01 | + ·02 |
| Deduced……… | 2$^{h}$ 39$^{m}$ 29$^{s}$·413 | 50° 11′ 44″·53 |
| **+ 48° 752.** | | |
| Provisional…… | 2$^{h}$ 39$^{m}$ 35$^{s}$·56 | 48° 56′ 22″·4 |
| 1900. | | |
| 5154 Oct. 10 | + ″·03* | − ″·09* |
| 5160 Oct. 14 | − ·11 | + ·11 |
| 5161 ,, | − ·06 | + ·03 |
| 5162 Oct. 15 | − ·26* | + ·02* |
| Mean | − ·10 | + ·03 |
| Red$^{n}$. to L. | ·00 | + ·02 |
| Deduced……… | 2$^{h}$ 39$^{m}$ 35$^{s}$·570 | 48° 56′ 22″·35 |
| **+ 44° 573.** | | |
| Provisional…… | 2$^{h}$ 39$^{m}$ 44$^{s}$·37 | 45° 1′ 45″·2 |
| 1900. | | |
| 5126 Oct. 1 | + ″·05 | − ″·21 |
| 5129 Oct. 2 | + ·07 | − ·09 |
| 5130 ,, | − ·14 | − ·04 |
| 5131 ,, | (+ ·24) | (− ·05) |
| 5133 ,, | + ·08 | − ·42 |
| 5134 Oct. 3 | − ·04* | − ·13* |
| Mean | + ·01 | − ·18 |
| Red$^{n}$. to L. | − ·01 | + ·01 |
| Deduced……… | 2$^{h}$ 39$^{m}$ 44$^{s}$·370 | 45° 1′ 45″·37 |

* Weight ½ has been given to these results, the star being between 55′ and 60′ from the centre of the plate.
† Not used in forming the mean, the star being more than 60′ from the centre of the plate.

### TABLE VI.—Residuals from Photographs and Deduced Places of Reference Stars.

| Plate No. and Date. | R.A. 1900·0. | Dec. N. 1900·0. |
|---|---|---|
| **+ 31° 477.** | | |
| Provisional...... | $2^{h}\ 40^{m}\ 19^{s}{\cdot}08$ | 31° 34′ 27″·4 |
| 1901. | | |
| 5365 Jan. 14 | −″·13 | +″·61 |
| 5366 ,, | +·02 | +·44 |
| 5367 ,, | +·07 | +·39 |
| 5368 Jan. 15 | −·24* | −·08* |
| 5369 ,, | −·13* | +·14* |
| 5371 ,, | +·17* | +·39* |
| 5372 ,, | −·08* | +·10* |
| Mean | −·04 | +·33 |
| Red$^{n}$. to L. | +·01 | −·04 |
| Deduced......... | $2^{h}\ 40^{m}\ 19^{s}{\cdot}082$ | 31° 34′ 27″·11 |
| **+ 45° 660.** | | |
| Provisional...... | $2^{h}\ 40^{m}\ 33^{s}{\cdot}93$ | 45° 29′ 46″·8 |
| 1900. | | |
| 5126 Oct. 1 | +″·35 | −″·16 |
| 5129 Oct. 2 | +·37 | −·45 |
| 5130 ,, | +·29 | −·40 |
| 5131 ,, | (+·75) | (−·57) |
| 5133 ,, | +·28 | −·55 |
| 5134 Oct. 3 | +·16 | −·65 |
| 5138 Oct. 4 | +·44 | −·28 |
| 5139 ,, | +·17 | −·45 |
| 5141 Oct. 5 | (+·13) | (−1·13) |
| Mean | +·29 | −·42 |
| Red$^{n}$. to L. | +·01 | +·01 |
| Deduced......... | $2^{h}\ 40^{m}\ 33^{s}{\cdot}901$ | 45° 29′ 47″·21 |
| **+ 44° 577.** | | |
| Provisional...... | $2^{h}\ 41^{m}\ 0^{s}{\cdot}69$ | 44° 50′ 44″·6 |
| 1900. | | |
| 5126 Oct. 1 | +″·04 | −″·21 |
| 5129 Oct. 2 | +·27 | −·11 |
| 5130 ,, | −·03 | −·28 |
| 5131 ,, | (+·41) | (−·15) |
| 5133 ,, | +·04 | −·35 |
| 5134 Oct. 3 | +·02* | −·18* |
| Mean | +·07 | −·23 |
| Red$^{n}$. to L. | +·01 | +·01 |
| Deduced......... | $2^{h}\ 41^{m}\ 0^{s}{\cdot}682$ | 44° 50′ 44″·82 |
| **+ 49° 773.** | | |
| Provisional...... | $2^{h}\ 41^{m}\ 5^{s}{\cdot}09$ | 49° 39′ 34″·3 |
| 1900. | | |
| 5160 Oct. 14 | −″·08 | +″·16 |
| 5161 ,, | +·03 | +·27 |
| 5162 Oct. 15 | −·08 | +·30 |
| Mean | −·05 | +·25 |
| Red$^{n}$. to L. | +·01 | +·02 |
| Deduced......... | $2^{h}\ 41^{m}\ 5^{s}{\cdot}094$ | 49° 39′ 34″·03 |
| **+ 47° 698.** | | |
| Provisional...... | $2^{h}\ 41^{m}\ 20^{s}{\cdot}23$ | 47° 46′ 43″·2 |
| 1900. | | |
| 5142 Oct. 7 | +″·06 | −″·18 |
| 5143 ,, | +·16 | +·03 |
| 5145 ,, | +·05 | −·26 |
| 5146 ,, | −·02 | −·34 |
| 5148 Oct. 8 | +·08 | −·45 |
| 5150 ,, | +·14 | −·32 |
| 5152 ,, | +·13 | −·15 |
| 5154 Oct. 10 | +·17 | −·25 |
| Mean | +·10 | −·24 |
| Red$^{n}$. to L. | −·02 | +·01 |
| Deduced......... | $2^{h}\ 41^{m}\ 20^{s}{\cdot}222$ | 47° 46′ 43″·43 |
| **+ 48° 760.** | | |
| Provisional...... | $2^{h}\ 41^{m}\ 25^{s}{\cdot}43$ | 48° 48′ 6″·4 |
| 1900. | | |
| 5160 Oct. 14 | −″·13 | −″·02 |
| 5161 ,, | −·21 | +·04 |
| Mean | −·17 | +·01 |
| Red$^{n}$. to L. | +·02 | +·02 |
| Deduced......... | $2^{h}\ 41^{m}\ 25^{s}{\cdot}445$ | 48° 48′ 6″·37 |
| **+ 33° 512.** | | |
| Provisional...... | $2^{h}\ 41^{m}\ 27^{s}{\cdot}41$ | 33° 13′ 1″·7 |
| 1901. | | |
| 5359 Jan. 13 | −″·04 | +″·04 |
| 5365 Jan. 14 | +·05 | −·55 |
| **+ 33° 512—*contd.*** | | |
| 1901. | | |
| 5366 Jan. 14 | +″·17 | −″·11 |
| 5367 ,, | +·02 | −·01 |
| Mean | +·04 | −·13 |
| Red$^{n}$. to L. | +·02 | −·04 |
| Deduced......... | $2^{h}\ 41^{m}\ 27^{s}{\cdot}405$ | 33° 13′ 1″·87 |
| **+ 50° 636.** | | |
| Provisional...... | $2^{h}\ 41^{m}\ 35^{s}{\cdot}77$ | 50° 28′ 43″·6 |
| 1900. | | |
| 5162 Oct. 15 | +″·25 | −″·08 |
| Red$^{n}$. to L. | ·00 | +·01 |
| Deduced......... | $2^{h}\ 41^{m}\ 35^{s}{\cdot}744$ | 50° 28′ 43″·67 |
| **+ 47° 700.** | | |
| Provisional...... | $2^{h}\ 41^{m}\ 43^{s}{\cdot}82$ | 48° 2′ 10″·0 |
| 1900. | | |
| 5148 Oct. 8 | +″·15 | −″·07 |
| 5150 ,, | +·16 | +·10 |
| 5152 ,, | +·04 | −·15 |
| 5154 Oct. 10 | −·09 | ·00 |
| Mean | +·05 | −·03 |
| Red$^{n}$. to L. | −·04 | +·01 |
| Deduced......... | $2^{h}\ 41^{m}\ 43^{s}{\cdot}819$ | 48° 2′ 10″·02 |
| **+ 46° 638.** | | |
| Provisional...... | $2^{h}\ 41^{m}\ 50^{s}{\cdot}63$ | 46° 32′ 46″·7 |
| 1900. | | |
| 5134 Oct. 3 | (−″·09) | (+″·60) |
| 5138 Oct. 4 | −·07 | −·25 |
| 5139 ,, | +·23 | −·20 |
| 5141 Oct. 5 | (−·10) | (−·16) |
| 5142 Oct. 7 | +·20 | −·29 |
| 5143 ,, | +·39 | −·33 |
| 5145 ,, | +·26 | −·01 |
| 5146 ,, | +·26 | −·16 |
| Mean | +·21 | −·21 |
| Red$^{n}$. to L. | +·02 | +·01 |
| Deduced......... | $2^{h}\ 41^{m}\ 50^{s}{\cdot}608$ | 46° 32′ 46″·90 |

---

* Weight ½ has been given to these results, the star being between 55′ and 60′ from the centre of the plate.
† Not used in forming the mean, the star being more than 60′ from the centre of the plate.

TABLE VI.—Residuals from Photographs and Deduced Places of Reference Stars.

| Plate No. and Date. | R.A. 1900·0. | Dec. N. 1900·0. |
|---|---|---|
| **+ 47° 702.** | | |
| Provisional…… | $2^{h}\,42^{m}\,19^{s}{\cdot}25$ | 47° 12′ 30″·8 |
| 1900. | | |
| 5141 Oct. 5 | (−″·35) | (+1″·25) |
| 5142 Oct. 7 | +·19 | +·14 |
| 5143 „ | −·01 | +·12 |
| 5145 „ | −·10 | −·06 |
| 5146 „ | −·11 | +·18 |
| 5148 Oct. 8 | −·04 | +·38 |
| 5150 „ | +·03 | +·01 |
| 5152 „ | −·34 | +·21 |
| | Mean −·06 | +·14 |
| | Red$^{n}$. to L. −·02 | +·01 |
| Deduced……… | $2^{h}\,42^{m}\,19^{s}{\cdot}258$ | 47° 12′ 30″·65 |
| **+ 46° 641.** | | |
| Provisional…… | $2^{h}\,42^{m}\,28^{s}{\cdot}24$ | 46° 48′ 4″·6 |
| 1900. | | |
| 5138 Oct. 4 | −″·31 | +″·18 |
| 5139 „ | −·20 | +·22 |
| 5141 Oct. 5 | (−·34) | (+·58) |
| 5142 Oct. 7 | −·20 | +·28 |
| 5143 | −·44 | +·15 |
| 5145 | −·46 | +·21 |
| 5146 „ | −·07 | +·27 |
| 5148 Oct. 8 | −·25 | +·23 |
| 5150 „ | −·28 | +·12 |
| 5152 „ | −·38 | −·09 |
| | Mean −·29 | +·18 |
| | Red$^{n}$. to L. ·00 | ·00 |
| Deduced……… | $2^{h}\,42^{m}\,28^{s}{\cdot}268$ | 46° 48′ 4″·42 |
| **+ 48° 764.** | | |
| Provisional…… | $2^{h}\,42^{m}\,43^{s}{\cdot}28$ | 48° 27′ 49″·4 |
| 1900. | | |
| 5154 Oct. 10 | +″·16 | +″·01 |
| | Red$^{n}$. to L. −·03 | +·01 |
| Deduced……… | $2^{h}\,42^{m}\,43^{s}{\cdot}267$ | 48° 27′ 49″·38 |

| Plate No. and Date. | R.A. 1900·0. | Dec. N. 1900·0. |
|---|---|---|
| **+ 45° 662.** | | |
| Provisional…… | $2^{h}\,42^{m}\,54^{s}{\cdot}97$ | 45° 59′ 10″·8 |
| 1900. | | |
| 5129 Oct. 2 | +″·12 | +″·34 |
| 5130 „ | +·35 | +·21 |
| 5131 „ | (+·40) | (−·13) |
| 5133 „ | +·40 | +·24 |
| 5134 Oct. 3 | +·25 | +·02 |
| 5138 Oct. 4 | +·43 | −·33 |
| 5139 „ | +·23 | −·08 |
| 5141 Oct. 5 | (+·23) | (−·34) |
| | Mean +·30 | +·05 |
| | Red$^{n}$. to L. +·02 | ·00 |
| Deduced……… | $2^{h}\,42^{m}\,54^{s}{\cdot}940$ | 45° 59′ 10″·75 |
| **+ 49° 782.** | | |
| Provisional…… | $2^{h}\,42^{m}\,58^{s}{\cdot}89$ | 49° 35′ 54″·4 |
| 1900. | | |
| 5160 Oct. 14 | +″·53 | +″·18 |
| 5161 „ | +·40 | +·34 |
| 5162 Oct. 15 | +·23 | +·18 |
| | Mean +·37 | +·23 |
| | Red$^{n}$. to L. +·01 | +·02 |
| Deduced……… | $2^{h}\,42^{m}\,58^{s}{\cdot}851$ | 49° 35′ 54″·15 |
| **+ 32° 508.** | | |
| Provisional…… | $2^{h}\,43^{m}\,1^{s}{\cdot}13$ | 32° 25′ 41″·2 |
| 1901. | | |
| 5359 Jan. 13 | −″·16† | −″·07† |
| 5365 Jan. 14 | −·40 | +·32 |
| 5366 „ | −·30 | +·24 |
| 5367 „ | −·22 | +·23 |
| 5368 Jan. 15 | −·06 | +·15 |
| 5369 „ | −·06 | +·28 |
| 5371 „ | −·42 | +·05 |
| 5372 „ | −·25 | −·13 |
| | Mean −·25 | +·17 |
| | Red$^{n}$. to L. ·00 | −·05 |
| Deduced……… | $2^{h}\,43^{m}\,1^{s}{\cdot}150$ | 32° 25′ 41″·08 |

| Plate No. and Date. | R.A. 1900·0. | Dec. N. 1900·0. |
|---|---|---|
| **+ 32° 507.** | | |
| Provisional…… | $2^{h}\,43^{m}\,1^{s}{\cdot}16$ | 32° 45′ 32″·6 |
| 1901. | | |
| 5359 Jan. 13 | +″·60* | −″·14* |
| 5365 Jan. 14 | −·16 | −·14 |
| 5366 „ | −·09 | ·00 |
| 5367 „ | −·11 | +·12 |
| 5368 Jan. 15 | −·26 | +·40 |
| 5369 „ | −·32 | +·25 |
| 5371 „ | −·14 | +·45 |
| 5372 „ | +·22 | +·55 |
| | Mean −·05 | +·19 |
| | Red$^{n}$. to L. +·01 | −·04 |
| Deduced……… | $2^{h}\,43^{m}\,1^{s}{\cdot}163$ | 32° 45′ 32″·45 |
| **+ 44° 582.** | | |
| Provisional…… | $2^{h}\,43^{m}\,4^{s}{\cdot}76$ | 44° 59′ 17″·8 |
| 1900. | | |
| 5126 Oct. 1 | +″·16 | +″·25 |
| 5129 Oct. 2 | +·23 | +·05 |
| 5130 „ | +·12 | +·08 |
| 5131 „ | (+·27) | (+·10) |
| 5133 „ | +·17 | +·02 |
| 5134 Oct. 3 | ·00 | +·20 |
| | Mean +·13 | +·14 |
| | Red$^{n}$. to L. +·01 | +·01 |
| Deduced……… | $2^{h}\,43^{m}\,4^{s}{\cdot}747$ | 44° 59′ 17″·65 |
| **+ 31° 483.** | | |
| Provisional…… | $2^{h}\,43^{m}\,9^{s}{\cdot}58$ | 31° 41′ 46″·5 |
| 1901. | | |
| 5365 Jan. 14 | −″·35 | +″·16 |
| 5366 „ | −·09 | +·08 |
| 5367 „ | −·14 | +·08 |
| 5368 Jan. 15 | +·30 | +·01 |
| 5369 „ | +·19 | −·02 |
| 5371 „ | +·01 | +·03 |
| 5372 „ | +·17 | −·19 |
| | Mean +·01 | +·03 |
| | Red$^{n}$. to L. ·00 | −·05 |
| Deduced……… | $2^{h}\,43^{m}\,9^{s}{\cdot}579$ | 31° 41′ 46″·52 |

* Weight ½ has been given to these results, the star being between 55′ and 60′ from the centre of the plate.

† Not used in forming the mean, the star being more than 60′ from the centre of the plate.

TABLE VI.—Residuals from Photographs and Deduced Places of Reference Stars.

+ 47° 709.

| Plate No. and Date. | R.A. 1900·0. | Dec. N. 1900·0. |
|---|---|---|
| Provisional…… | $2^{h}\,43^{m}\,21^{s}{\cdot}24$ | 47° 43′ 50″·9 |
| 1900. | | |
| 5142 Oct. 7 | −″·12 | −″·17 |
| 5143 ,, | −·07 | +·03 |
| 5145 ,, | +·13 | −·16 |
| 5146 ,, | +·26 | +·06 |
| 5148 Oct. 8 | +·10 | −·37 |
| 5150 ,, | +·10 | −·19 |
| 5152 ,, | −·05 | −·14 |
| 5154 Oct. 10 | −·08 | −·09 |
| Mean | +·03 | −·13 |
| Red$^{n}$. to L. | −·02 | +·01 |
| Deduced……… | $2^{h}\,43^{m}\,21^{s}{\cdot}239$ | 47° 43′ 51″·02 |

+ 46° 644.

| Plate No. and Date. | R.A. 1900·0. | Dec. N. 1900·0. |
|---|---|---|
| Provisional…… | $2^{h}\,43^{m}\,34^{s}{\cdot}64$ | 46° 59′ 53″·0 |
| 1900. | | |
| 5138 Oct. 4 | +″·68† | +″·14† |
| 5139 ,, | +·63† | (+·66)† |
| 5141 Oct. 5 | (+·32) | (+·48) |
| 5142 Oct. 7 | +·57 | −·22 |
| 5143 ,, | +·58 | −·29 |
| 5145 ,, | +·59 | +·04 |
| 5146 ,, | +·67 | −·17 |
| 5148 Oct. 8 | +·59 | +·28 |
| 5150 ,, | +·59 | +·08 |
| 5152 ,, | +·51 | +·06 |
| Mean | +·58 | −·03 |
| Red$^{n}$. to L. | −·02 | +·01 |
| Deduced……… | $2^{h}\,43^{m}\,34^{s}{\cdot}585$ | 46° 59′ 53″·02 |

+ 47° 711.

| Plate No. and Date. | R.A. 1900·0. | Dec. N. 1900·0. |
|---|---|---|
| Provisional…… | $2^{h}\,43^{m}\,53^{s}{\cdot}24$ | 47° 52′ 34″·0 |
| 1900. | | |
| 5142 Oct. 7 | −″·38 | +″·09 |
| 5143 ,, | −·08 | +·19 |
| 5145 ,, | −·21 | −·15 |
| 5146 ,, | −·11 | −·17 |

+ 47° 711—*contd.*

| Plate No. and Date. | R.A. 1900·0. | Dec. N. 1900·0. |
|---|---|---|
| 1900. | | |
| 5148 Oct. 8 | −″·23 | +″·24 |
| 5150 ,, | +·03 | +·11 |
| 5152 ,, | −·31 | −·03 |
| 5154 Oct. 10 | −·28 | +·20 |
| Mean | −·20 | +·07 |
| Red$^{n}$. to L. | −·02 | ·00 |
| Deduced……… | $2^{h}\,43^{m}\,53^{s}{\cdot}262$ | 47° 52′ 33″·93 |

+ 45° 665.

| Plate No. and Date. | R.A. 1900·0. | Dec. N. 1900·0. |
|---|---|---|
| Provisional…… | $2^{h}\,44^{m}\,0^{s}{\cdot}43$ | 45° 25′ 21″·2 |
| 1900. | | |
| 5126 Oct. 1 | +″·15 | +″·12 |
| 5129 Oct. 2 | +·27 | −·25 |
| 5130 ,, | +·27 | −·03 |
| 5131 ,, | (+·53) | (−·11) |
| 5133 ,, | +·49 | −·16 |
| 5134 Oct. 3 | +·34 | +·09 |
| 5138 Oct. 4 | +·28 | +·38 |
| 5139 ,, | +·30 | −·21 |
| 5141 Oct. 5 | (+·25) | (−·53) |
| Mean | +·29 | +·01 |
| Red$^{n}$. to L. | +·01 | +·01 |
| Deduced……… | $2^{h}\,44^{m}\,0^{s}{\cdot}402$ | 45° 25′ 21″·18 |

+ 43° 586.

| Plate No. and Date. | R.A. 1900·0. | Dec. N. 1900·0. |
|---|---|---|
| Provisional…… | $2^{h}\,44^{m}\,6^{s}{\cdot}80$ | 43° 56′ 39″·1 |
| 1900. | | |
| 5126 Oct. 1 | +″·49 | +″·12 |
| Red$^{n}$. to L. | −·02 | ·00 |
| Deduced……… | $2^{h}\,44^{m}\,6^{s}{\cdot}757$ | 43° 56′ 38″·98 |

+ 45° 667.

| Plate No. and Date. | R.A. 1900·0. | Dec. N. 1900·0. |
|---|---|---|
| Provisional…… | $2^{h}\,44^{m}\,9^{s}{\cdot}50$ | 45° 39′ 30″·6 |
| 1900. | | |
| 5126 Oct. 1 | −″·05 | +″·08 |
| 5129 Oct. 2 | +·22 | −·05 |
| 5130 ,, | −·12 | +·05 |

+ 45° 667—*contd.*

| Plate No. and Date. | R.A. 1900·0. | Dec. N. 1900·0. |
|---|---|---|
| 1900. | | |
| 5131 Oct. 2 | (+″·26) | (+″·13) |
| 5133 ,, | +·32 | +·13 |
| 5134 Oct. 3 | +·27 | +·05 |
| 5138 Oct. 4 | ·00 | −·05 |
| 5139 ,, | −·08 | −·13 |
| 5141 Oct. 5 | (+·08) | (−·41) |
| Mean | +·08 | +·01 |
| Red$^{n}$. to L. | +·01 | +·01 |
| Deduced……… | $2^{h}\,44^{m}\,9^{s}{\cdot}492$ | 45° 39′ 30″·58 |

+ 48° 770.

| Plate No. and Date. | R.A. 1900·0. | Dec. N. 1900·0. |
|---|---|---|
| Provisional…… | $2^{h}\,44^{m}\,19^{s}{\cdot}67$ | 48° 56′ 9″·9 |
| 1900. | | |
| 5154 Oct. 10 | +″·08 | −″·35 |
| 5160 Oct. 14 | −·33* | −·32* |
| 5161 ,, | −·25* | −·47* |
| 5162 Oct. 15 | −·15† | −·29† |
| Mean | −·10 | −·37 |
| Red$^{n}$. to L. | −·01 | +·01 |
| Deduced……… | $2^{h}\,44^{m}\,19^{s}{\cdot}681$ | 48° 56′ 10″·26 |

+ 31° 490.

| Plate No. and Date. | R.A. 1900·0. | Dec. N. 1900·0. |
|---|---|---|
| Provisional…… | $2^{h}\,44^{m}\,23^{s}{\cdot}26$ | 31° 33′ 33″·6 |
| 1901. | | |
| 5365 Jan. 14 | −″·43† | −″·33† |
| 5366 ,, | −·76† | −·22† |
| 5367 ,, | −·50† | −·42† |
| 5368 Jan. 15 | ·00 | −·06 |
| 5369 ,, | −·17 | −·23 |
| 5371 ,, | −·45 | −·40 |
| 5372 ,, | −·92 | −·60 |
| Mean | −·39 | −·32 |
| Red$^{n}$. to L. | ·00 | −·05 |
| Deduced……… | $2^{h}\,44^{m}\,23^{s}{\cdot}290$ | 31° 33′ 33″·97 |

* Weight ½ has been given to these results, the star being between 55′ and 60′ from the centre of the plate.

† Not used in forming the mean, the star being more than 60′ from the centre of the plate.

### TABLE VI.—Residuals from Photographs and Deduced Places of Reference Stars.

| Plate No. and Date. | R.A. 1900·0. | Dec. N. 1900·0. |
|---|---|---|
| + 45° 669. | | |
| Provisional...... | 2$^{h}$ 44$^{m}$ 55$^{s}$·64 | 45° 34′ 26″·3 |
| 1900. | | |
| 5126 Oct. 1 | −″·11 | −″·02 |
| 5129 Oct. 2 | −·21 | −·19 |
| 5130 ,, | −·01 | −·08 |
| 5131 ,, | (−·10) | (−·35) |
| 5133 ,, | +·09 | −·15 |
| 5134 Oct. 3 | −·15 | −·15 |
| 5138 Oct. 4 | −·09 | −·35 |
| 5139 ,, | +·04 | −·36 |
| 5141 Oct. 5 | (−·12) | (−·60) |
| Mean | −·07 | −·18 |
| Red$^{n}$. to L. | +·01 | +·01 |
| Deduced......... | 2$^{h}$ 44$^{m}$ 55$^{s}$·646 | 45° 34′ 26″·47 |
| + 31° 493. | | |
| Provisional...... | 2$^{h}$ 44$^{m}$ 56$^{s}$·05 | 31° 57′ 1″·5 |
| 1901. | | |
| 5365 Jan. 14 | +″·14 | +″·25 |
| 5366 ,, | +·55 | −·06 |
| 5367 ,, | +·33 | −·03 |
| 5368 Jan. 15 | +·13 | +·10 |
| 5369 ,, | −·07 | −·06 |
| 5371 ,, | −·05 | −·03 |
| 5372 ,, | +·55 | +·22 |
| Mean | +·23 | +·06 |
| Red$^{n}$. to L. | ·00 | −·05 |
| Deduced......... | 2$^{h}$ 44$^{m}$ 56$^{s}$·032 | 31° 57′ 1″·49 |
| + 46° 648. | | |
| Provisional...... | 2$^{h}$ 44$^{m}$ 59$^{s}$·87 | 46° 25′ 46″·2 |
| 1900. | | |
| 5134 Oct. 3 | −″·23 | +″·36 |
| 5138 Oct. 4 | −·11 | +·17 |
| 5139 ,, | −·19 | +·45 |
| 5141 Oct. 5 | (−·21) | (+·26) |
| 5142 Oct. 7 | −·30 | +·39 |
| 5143 ,, | −·36 | +·17 |
| 5145 ,, | −·33 | +·50 |
| 5146 ,, | −·30 | +·42 |
| Mean | −·25 | +·35 |
| Red$^{n}$. to L. | +·02 | −·01 |
| Deduced......... | 2$^{h}$ 44$^{m}$ 59$^{s}$·892 | 46° 25′ 45″·86 |
| + 44° 591. | | |
| Provisional...... | 2$^{h}$ 45$^{m}$ 6$^{s}$·74 | 44° 38′ 47″·6 |
| 1900. | | |
| 5126 Oct. 1 | −″·25 | −″·11 |
| 5129 Oct. 2 | −·21 | +·21 |
| 5130 ,, | −·22 | +·07 |
| 5131 ,, | (−·22) | (+·41) |
| 5133 ,, | −·05 | +·02 |
| 5134 Oct. 3 | −·24* | −·02* |
| Mean | −·20 | +·02 |
| Red$^{n}$. to L. | +·01 | +·01 |
| Deduced.. ...... | 2$^{h}$ 45$^{m}$ 6$^{s}$·758 | 44° 38′ 47″·57 |
| + 44° 593. | | |
| Provisional...... | 2$^{h}$ 45$^{m}$ 16$^{s}$·84 | 44° 28′ 54″·3 |
| 1900. | | |
| 5126 Oct. 1 | −″·23 | +″·22 |
| 5129 Oct. 2 | −·44 | +·40 |
| 5130 ,, | −·17 | +·34 |
| 5131 ,, | (−·70) | (+·72) |
| 5133 ,, | −·66 | +·51 |
| Mean | −·36 | +·35 |
| Red$^{n}$. to L. | −·01 | +·01 |
| Deduced......... | 2$^{h}$ 45$^{m}$ 16$^{s}$·874 | 44° 28′ 53″·94 |
| + 48° 777. | | |
| Provisional...... | 2$^{h}$ 45$^{m}$ 20$^{s}$·15 | 48° 28′ 14″·1 |
| 1900. | | |
| 5154 Oct. 10 | −″·26 | −″·08 |
| Red$^{n}$. to L. | −·04 | +·01 |
| Deduced......... | 2$^{h}$ 45$^{m}$ 20$^{s}$·180 | 48° 28′ 14″·17 |
| + 47° 720. | | |
| Provisional...... | 2$^{h}$ 45$^{m}$ 37$^{s}$·34 | 47° 30′ 3″·5 |
| 1900. | | |
| 5142 Oct. 7 | +″·30 | −″·08 |
| 5143 ,, | +·11 | −·30 |
| 5145 ,, | +·14 | −·23 |
| + 47° 720—*contd.* | | |
| 1900. | | |
| 5146 Oct. 7 | +″·11 | −″·27 |
| 5148 Oct. 8 | −·27 | −·03 |
| 5150 ,, | +·03 | −·45 |
| 5152 ,, | +·49 | −·10 |
| 5154 Oct. 10 | −·11 | +·29 |
| Mean | +·10 | −·12 |
| Red$^{n}$. to L. | −·02 | +·01 |
| Deduced......... | 2$^{h}$ 45$^{m}$ 37$^{s}$·332 | 47° 30′ 3″·61 |
| + 47° 721. | | |
| Provisional..... | 2$^{h}$ 45$^{m}$ 50$^{s}$·91 | 48° 0′ 31″·5 |
| 1900. | | |
| 5148 Oct. 8 | −″·16 | +″·07 |
| 5150 ,, | −·19 | +·26 |
| 5152 ,, | +·06 | +·20 |
| 5154 Oct. 10 | +·11 | +·10 |
| Mean | −·03 | +·15 |
| Red$^{n}$. to L. | −·04 | ·00 |
| Deduced......... | 2$^{h}$ 45$^{m}$ 50$^{s}$·917 | 48° 0′ 31″·35 |
| + 32° 517. | | |
| Provisional...... | 2$^{h}$ 45$^{m}$ 56$^{s}$·84 | 32° 19′ 47″·8 |
| 1901. | | |
| 5365 Jan. 14 | +″·16* | −″·13* |
| 5366 ,, | +·15* | −·24* |
| 5367 ,, | +·35* | −·18* |
| 5368 Jan. 15 | +·17 | −·28 |
| 5369 ,, | +·25 | −·17 |
| 5371 ,, | +·05 | −·25 |
| 5372 ,, | −·06 | −·02 |
| Mean | +·13 | −·18 |
| Red$^{n}$. to L. | ·00 | −·05 |
| Deduced......... | 2$^{h}$ 45$^{m}$ 56$^{s}$·830 | 32° 19′ 48″·03 |

* Weight ½ has been given to these results, the star being between 55′ and 60′ from the centre of the plate.

† Not used in forming the mean, the star being more than 60′ from the centre of the plate.

## TABLE VI.—Residuals from Photographs and Deduced Places of Reference Stars.

| Plate No. and Date. | R.A. 1900·0. | Dec. N. 1900·0. |
|---|---|---|
| **+ 46° 652.** | | |
| Provisional...... | 2$^{h}$ 47$^{m}$ 16$^{s}$·62 | 46° 45′ 6″·8 |
| 1900. | | |
| 5138 Oct. 4 | −·40 | −·30 |
| 5139 ,, | −·52 | −·18 |
| 5141 Oct. 5 | (+·09) | (+·57) |
| 5142 Oct. 7 | −·51 | +·33 |
| 5143 ,, | −·56 | +·49 |
| 5145 ,, | −·79 | +·45 |
| 5146 ,, | −·87 | +·33 |
| 5148 Oct. 8 | −·48 | +·36 |
| 5150 ,, | −·75 | +·61 |
| 5152 ,, | −·64 | +·16 |
| Mean | −·61 | +·23 |
| Red$^{n}$. to L. | −·01 | ·00 |
| Deduced......... | 2$^{h}$ 47$^{m}$ 16$^{s}$·679 | 46° 45′ 6″·57 |
| **+ 31° 497.** | | |
| Provisional...... | 2$^{h}$ 47$^{m}$ 21$^{s}$·93 | 31° 14′ 7″·3 |
| 1901. | | |
| 5368 Jan. 15 | −·01 | +·01 |
| 5369 ,, | +·31 | ·00 |
| 5371 ,, | +·21 | −·17 |
| 5372 ,, | +·07 | −·09 |
| 5379 Jan. 17 | −·38 | +·07 |
| Mean | ·00 | −·02 |
| Red$^{n}$. to L. | ·00 | −·04 |
| Deduced......... | 2$^{h}$ 47$^{m}$ 21$^{s}$·930 | 31° 14′ 7″·36 |
| **+ 32° 522.** | | |
| Provisional...... | 2$^{h}$ 47$^{m}$ 34$^{s}$·79 | 32° 30′ 33″·7 |
| 1901. | | |
| 5368 Jan. 15 | −·27 | −·19 |
| 5369 ,, | −·22 | −·10 |
| 5371 ,, | +·12 | −·10 |
| 5372 ,, | −·23 | +·13 |
| Mean | −·15 | −·07 |
| Red$^{n}$. to L. | ·00 | −·05 |
| Deduced......... | 2$^{h}$ 47$^{m}$ 34$^{s}$·802 | 32° 30′ 33″·82 |
| **+ 31° 500.** | | |
| Provisional...... | 2$^{h}$ 48$^{m}$ 4$^{s}$·41 | 31° 55′ 43″·3 |
| 1901. | | |
| 5368 Jan. 15 | +·28 | −·02 |
| 5369 ,, | +·18 | −·09 |
| 5371 ,, | +·54 | +·04 |
| 5372 ,, | +·49 | ·00 |
| 5379 Jan. 17 | +·10† | −·04† |
| Mean | +·37 | −·02 |
| Red$^{n}$. to L. | ·00 | −·05 |
| Deduced......... | 2$^{h}$ 48$^{m}$ 4$^{s}$·381 | 31° 55′ 43″·37 |
| **+ 45° 679.** | | |
| Provisional...... | 2$^{h}$ 49$^{m}$ 14$^{s}$·98 | 45° 26′ 1″·2 |
| 1900. | | |
| 5126 Oct. 1 | −·35† | −·39† |
| 5129 Oct. 2 | −·31* | −·31* |
| 5130 ,, | −·30* | −·38* |
| 5131 ,, | (−·85) | (−·62) |
| 5133 ,, | −·25* | −·26* |
| 5134 Oct. 3 | −·35* | −·14* |
| 5138 Oct. 4 | −·20† | −·13† |
| 5139 ,, | −·18† | −·55† |
| Mean | −·31 | −·26 |
| Red$^{n}$. to L. | +·01 | +·01 |
| Deduced......... | 2$^{h}$ 49$^{m}$ 15$^{s}$·008 | 45° 26′ 1″·45 |
| **+ 44° 598.** | | |
| Provisional...... | 2$^{h}$ 49$^{m}$ 28$^{s}$·86 | 44° 34′ 38″·0 |
| 1900. | | |
| 5126 Oct. 1 | −·26 | +·31 |
| 5129 Oct. 2 | −·42 | +·55 |
| 5130 ,, | −·06 | +·58 |
| 5131 ,, | (−·94) | (+·85) |
| 5133 ,, | (−·94) | (+·99) |
| Mean | −·25 | +·47 |
| Red$^{n}$. to L. | ·00 | +·01 |
| Deduced......... | 2$^{h}$ 49$^{m}$ 28$^{s}$·883 | 44° 34′ 37″·52 |
| **+ 30° 464.** | | |
| Provisional...... | 2$^{h}$ 49$^{m}$ 39$^{s}$·35 | 30° 38′ 14″·3 |
| 1901. | | |
| 5379 Jan. 17 | −·63 | −·06 |
| Red$^{n}$. to L. | ·00 | −·01 |
| Deduced......... | 2$^{h}$ 49$^{m}$ 39$^{s}$·399 | 30° 38′ 14″·37 |
| **+ 30° 465.** | | |
| Provisional...... | 2$^{h}$ 49$^{m}$ 50$^{s}$·62 | 31° 10′ 29″·9 |
| 1901. | | |
| 5379 Jan. 17 | −·36 | −·03 |
| Red$^{n}$. to L. | ·00 | −·01 |
| Deduced......... | 2$^{h}$ 49$^{m}$ 50$^{s}$·648 | 31° 10′ 29″·94 |
| **+ 30° 466.** | | |
| Provisional...... | 2$^{h}$ 50$^{m}$ 30$^{s}$·13 | 30° 28′ 33″·8 |
| 1901. | | |
| 5379 Jan. 17 | −·15 | −·15 |
| Red$^{n}$. to L. | ·00 | −·01 |
| Deduced......... | 2$^{h}$ 50$^{m}$ 30$^{s}$·142 | 30° 28′ 33″·96 |
| **+ 30° 469.** | | |
| Provisional...... | 2$^{h}$ 51$^{m}$ 58$^{s}$·20 | 31° 6′ 53″·1 |
| 1901. | | |
| 5379 Jan. 17 | −·14 | +·12 |
| Red$^{n}$. to L. | ·00 | −·01 |
| Deduced......... | 2$^{h}$ 51$^{m}$ 58$^{s}$·211 | 31° 6′ 52″·99 |
| **+ 31° 511.** | | |
| Provisional...... | 2$^{h}$ 52$^{m}$ 5$^{s}$·70 | 31° 36′ 55″·1 |
| 1901. | | |
| 5379 Jan. 17 | +·29 | −·21 |
| Red$^{n}$. to L. | ·00 | −·01 |
| Deduced......... | 2$^{h}$ 52$^{m}$ 5$^{s}$·677 | 31° 36′ 55″·32 |

* Weight ½ has been given to these results, the star being between 55′ and 60′ from the centre of the plate.
† Not used in forming the mean, the star being more than 60′ from the centre of the plate.

TABLE VI.—Residuals from Photographs and Deduced Places of Reference Stars.

| Plate No. and Date. | R.A. 1900·0. | Dec. N. 1900·0. |
|---|---|---|
| **+ 30° 474.** | | |
| Provisional…… | $2^{h}\ 53^{m}\ 52^{s}{\cdot}66$ | 30° 12′ 27′·7 |
| 1901.<br>5379 Jan. 17 | +″·42 | −″·41 |
| | Red$^{n}$. to L. ·00 | −·01 |
| Deduced……… | $2^{h}\ 53^{m}\ 52^{s}{\cdot}628$ | 30° 12′ 28″·12 |
| **+ 30° 477.** | | |
| Provisional…… | $2^{h}\ 54^{m}\ 13^{s}{\cdot}53$ | 30° 43′ 39″·7 |
| 1901.<br>5379 Jan. 17 | −″·22 | +″·30 |
| | Red$^{n}$. to L. ·00 | −·01 |
| Deduced……… | $2^{h}\ 54^{m}\ 13^{s}{\cdot}547$ | 30° 43′ 39″·41 |
| **+ 29° 508.** | | |
| Provisional…… | $2^{h}\ 54^{m}\ 24^{s}{\cdot}98$ | 30° 10′ 18″·1 |
| 1901.<br>5379 Jan 17 | +″·35 | −″·46 |
| | Red$^{n}$. to L. ·00 | −·01 |
| Deduced……… | $2^{h}\ 54^{m}\ 24^{s}{\cdot}953$ | 30° 10′ 18″·57 |
| **+ 31° 524.** | | |
| Provisional…… | $2^{h}\ 55^{m}\ 10^{s}{\cdot}50$ | 31° 33′ 29″·9 |
| 1901.<br>5379 Jan. 17 | +″·67 | +″·39 |
| | Red$^{n}$. to L. ·00 | −·01 |
| Deduced……… | $2^{h}\ 55^{m}\ 10^{s}{\cdot}448$ | 31° 33′ 29″·52 |
| **+ 28° 507.** | | |
| Provisional…… | $3^{h}\ 7^{m}\ 35^{s}{\cdot}00$ | 28° 51′ 27″·6 |
| 1901.<br>5387 Jan. 23 | −″·10 | −″·12 |
| | Red$^{n}$. to L. +·08 | ·00 |
| Deduced……… | $3^{h}\ 7^{m}\ 35^{s}{\cdot}002$ | 28° 51′ 27″·72 |
| **+ 28° 511.** | | |
| Provisional…… | $3^{h}\ 11^{m}\ 1^{s}{\cdot}90$ | 28° 23′ 24″·9 |
| 1901.<br>5387 Jan. 23 | +″·05 | −″·02 |
| 5390 Jan. 24 | +·23† | −·24† |
| | Mean +·05 | −·02 |
| | Red$^{n}$. to L. +·08 | ·00 |
| Deduced……… | $3^{h}\ 11^{m}\ 1^{s}{\cdot}890$ | 28° 23′ 24″·92 |
| **+ 27° 488.** | | |
| Provisional…… | $3^{h}\ 11^{m}\ 2^{s}{\cdot}12$ | 28° 6′ 59″·8 |
| 1901.<br>5387 Jan. 23 | −″·39 | −″·01 |
| 5390 Jan. 24 | −·53† | +·08† |
| | Mean −·39 | −·01 |
| | Red$^{n}$. to L. +·08 | ·00 |
| Deduced……… | $3^{h}\ 11^{m}\ 2^{s}{\cdot}143$ | 28° 6′ 59″·81 |
| **+ 28° 514.** | | |
| Provisional…… | $3^{h}\ 12^{m}\ 24^{s}{\cdot}85$ | 28° 20′ 50″·0 |
| 1901.<br>5387 Jan. 23 | +″·35 | +″·02 |
| 5390 Jan. 24 | +·49 | −·15 |
| | Mean +·42 | −·07 |
| | Red$^{n}$. to L. +·07 | +·03 |
| Deduced……… | $3^{h}\ 12^{m}\ 24^{s}{\cdot}813$ | 28° 20′ 50″·04 |
| **+ 27° 492.** | | |
| Provisional…… | $3^{h}\ 13^{m}\ 38^{s}{\cdot}04$ | 27° 10′ 42″·8 |
| 1901.<br>5390 Jan 24 | +″·13 | +″·18 |
| | Red$^{n}$. to L. +·06 | +·05 |
| Deduced……… | $3^{h}\ 13^{m}\ 38^{s}{\cdot}026$ | 27° 10′ 42″·57 |
| **+ 28° 516.** | | |
| Provisional…… | $3^{h}\ 14^{m}\ 17^{s}{\cdot}21$ | 28° 41′ 9″·5 |
| 1901.<br>5387 Jan. 23 | −″·09 | +″·11* |
| 5390 Jan. 24 | −·18 | −·13 |
| | Mean −·14 | −·01 |
| | Red$^{n}$. to L. +·07 | +·03 |
| Deduced……… | $3^{h}\ 14^{m}\ 17^{s}{\cdot}215$ | 28° 41′ 9″·48 |
| **+ 28° 517** | | |
| Provisional…… | $3^{h}\ 14^{m}\ 37^{s}{\cdot}00$ | 28° 27′ 57″·6 |
| 1901.<br>5387 Jan. 23 | +″·15 | ″·00 |
| 5390 Jan. 24 | +·16 | −·52 |
| | Mean +·16 | −·26 |
| | Red$^{n}$. to L. +·07 | +·03 |
| Deduced……… | $3^{h}\ 14^{m}\ 36^{s}{\cdot}983$ | 28° 27′ 57″·83 |
| **+ 27° 500.** | | |
| Provisional…… | $3^{h}\ 16^{m}\ 11^{s}{\cdot}58$ | 27° 14′ 54″·7 |
| 1901.<br>5390 Jan. 24 | −″·14 | +″·38 |
| | Red$^{n}$. to L. +·06 | +·05 |
| Deduced……… | $3^{h}\ 16^{m}\ 11^{s}{\cdot}586$ | 27° 14′ 54″·27 |
| **+ 27° 501.** | | |
| Provisional…… | $3^{h}\ 16^{m}\ 58^{s}{\cdot}05$ | 27° 19′ 44″·6 |
| 1901.<br>5390 Jan. 24 | −″·09 | −″·09 |
| | Red$^{n}$. to L. +·06 | +·05 |
| Deduced……… | $3^{h}\ 16^{m}\ 58^{s}{\cdot}052$ | 27° 19′ 44″·64 |

* Weight ½ has been given to these results, the star being between 55′ and 60′ from the centre of the plate.
† Not used in forming the mean, the star being more than 60′ from the centre of the plate.

## TABLE VI.—Residuals from Photographs and Deduced Places of Reference Stars.

| Plate No. and Date. | R.A. 1900·0. | Dec. N. 1900·0. | Plate No and Date. | R.A. 1900·0. | Dec. N. 1900·0. | Plate No. and Date. | R.A. 1900 0. | Dec. N. 1900·0. |
|---|---|---|---|---|---|---|---|---|
| | + 26° 550. | | | + 26° 579. | | | + 26° 601. | |
| Provisional…… | $3^{h}\,17^{m}\,32^{s}{\cdot}47$ | 27° 2′ 43″·7 | Provisional…… | $3^{h}\,30^{m}\,6^{s}{\cdot}05$ | 27° 0′ 40″·9 | Provisional…… | $3^{h}\,36^{m}\,27^{s}{\cdot}69$ | 26° 15′ 11″·2 |
| 1901.<br>5390 Jan. 24 | −″·07 | −″·09 | 1901.<br>5393 Jan. 29 | +″·17 | +″·46 | 1901.<br>5393 Jan. 29 | +″·26 | +″·21 |
| | Red$^{n}$. to L. +·06 | +·05 | | Red$^{n}$. to L. +·04 | +·03 | | Red$^{n}$. to L. +·04 | +·03 |
| Deduced……… | $3^{h}\,17^{m}\,32^{s}{\cdot}471$ | 27° 2′ 43″·74 | Deduced……… | $3^{h}\,30^{m}\,6^{s}{\cdot}034$ | 27° 0′ 40″·41 | Deduced……… | $3^{h}\,36^{m}\,27^{s}{\cdot}668$ | 26° 15′ 10″·96 |
| | + 28° 526. | | | + 25° 580. | | | + 25° 593. | |
| Provisional…… | $3^{h}\,18^{m}\,45^{s}{\cdot}56$ | 28° 17′ 58″·7 | Provisional…… | $3^{h}\,31^{m}\,9^{s}{\cdot}98$ | 25° 40′ 3″·5 | Provisional…… | $3^{h}\,37^{m}\,7^{s}{\cdot}25$ | 25° 21′ 45″·4 |
| 1901.<br>5390 Jan. 24 | −″·16 | +″·24 | 1901.<br>5393 Jan. 29 | −″·22 | +″·13 | 1901.<br>5393 Jan. 29 | −″·23 | +″·02 |
| | Red$^{n}$. to L. +·06 | +·05 | | Red$^{n}$. to L. +·04 | +·03 | | Red$^{n}$. to L. +·04 | +·03 |
| Deduced……… | $3^{h}\,18^{m}\,45^{s}{\cdot}568$ | 28° 17′ 58″·41 | Deduced……… | $3^{h}\,31^{m}\,9^{s}{\cdot}993$ | 25° 40′ 3″·34 | Deduced……… | $3^{h}\,37^{m}\,7^{s}{\cdot}264$ | 25° 21′ 45″·35 |
| | + 28° 532. | | | + 25° 584. | | | + 25° 598. | |
| Provisional…… | $3^{h}\,20^{m}\,31^{s}{\cdot}35$ | 28° 22′ 0″·0 | Provisional…… | $3^{h}\,33^{m}\,29^{s}{\cdot}12$ | 25° 48′ 4″·6 | Provisional…… | $3^{h}\,37^{m}\,38^{s}{\cdot}66$ | 25° 48′ 29″·0 |
| 1901.<br>5390 Jan. 24 | +″·21 | +″·33 | 1901.<br>5393 Jan. 29 | −″·19 | −″·02 | 1901.<br>5393 Jan. 29 | +″·77 | −″·27 |
| | Red$^{n}$. to L. +·06 | +·05 | | Red$^{n}$. to L. +·04 | +·03 | | Red$^{n}$. to L. +·04 | +·03 |
| Deduced……… | $3^{h}\,20^{m}\,31^{s}{\cdot}330$ | 28° 21′ 59″·62 | Deduced……… | $3^{h}\,33^{m}\,29^{s}{\cdot}131$ | 25° 48′ 4″·59 | Deduced……… | $3^{h}\,37^{m}\,38^{s}{\cdot}600$ | 25° 48′ 29″·24 |
| | + 26° 572. | | | + 26° 590. | | | + 25° 597. | |
| Provisional…… | $3^{h}\,28^{m}\,57^{s}{\cdot}17$ | 26° 16′ 22″·7 | Provisional…… | $3^{h}\,33^{m}\,29^{s}{\cdot}70$ | 26° 53′ 47″·0 | Provisional…… | $3^{h}\,37^{m}\,38^{s}{\cdot}95$ | 25° 27′ 10″·3 |
| 1901.<br>5393 Jan. 29 | −″·08 | −″·24 | 1901.<br>5393 Jan. 29 | −″·22 | +″·15 | 1901.<br>5393 Jan. 29 | +″·38 | −″·15 |
| | Red$^{n}$. to L. +·04 | +·03 | | Red$^{n}$. to L. +·04 | +·03 | | Red$^{n}$. to L. +·04 | +·03 |
| Deduced……… | $3^{h}\,28^{m}\,57^{s}{\cdot}173$ | 26° 16′ 22″·91 | Deduced……… | $3^{h}\,33^{m}\,29^{s}{\cdot}713$ | 26° 53′ 46″·82 | Deduced……… | $3^{h}\,37^{m}\,38^{s}{\cdot}919$ | 25° 27′ 10″·42 |
| | + 26° 574. | | | + 26° 596. | | | + 25° 599. | |
| Provisional…… | $3^{h}\,29^{m}\,19^{s}{\cdot}20$ | 26° 30′ 59″·2 | Provisional…… | $3^{h}\,34^{m}\,11^{s}{\cdot}99$ | 26° 33′ 45″·7 | Provisional…… | $3^{h}\,37^{m}\,44^{s}{\cdot}83$ | 26° 3′ 48″·5 |
| 1901.<br>5393 Jan. 29 | −″·70 | −″·01 | 1901.<br>5393 Jan. 29 | −″·48 | −″·04 | 1901.<br>5393 Jan. 29 | +″·48 | −″·23 |
| | Red$^{n}$. to L. +·04 | +·03 | | Red$^{n}$. to L. +·04 | +·03 | | Red$^{n}$. to L. +·04 | +·03 |
| Deduced……… | $3^{h}\,29^{m}\,19^{s}{\cdot}249$ | 26° 30′ 59″·18 | Deduced……… | $3^{h}\,34^{m}\,12^{s}{\cdot}023$ | 26° 33′ 45″·71 | Deduced……… | $3^{h}\,37^{m}\,44^{s}{\cdot}792$ | 26° 3′ 48″·70 |

* Weight ½ has been given to these results, the star being between 55′ and 60′ from the centre of the plate.

† Not used in forming the mean, the star being more than 60′ from the centre of the plate.

TABLE VI.—Residuals from Photographs and Deduced Places of Reference Stars.

| Plate No. and Date. | R.A. 1900·0. | Dec. N. 1900·0. |
|---|---|---|
| + 24° 568. | | |
| Provisional...... | $3^{h}\ 41^{m}\ 47^{s}{\cdot}09$ | 25° 4′ 38″·0 |
| 5394 1901. Feb. 1 | +″·08 | −″·04 |
| | Red$^{n}$. to L. −·01 | −·01 |
| Deduced......... | $3^{h}\ 41^{m}\ 47^{s}{\cdot}085$ | 25° 4′ 38″·05 |
| + 24° 571. | | |
| Provisional...... | $3^{h}\ 42^{m}\ 8^{s}{\cdot}01$ | 24° 40′ 48″·2 |
| 5394 1901. Feb. 1 | −″·11 | −″·46 |
| | Red$^{n}$. to L. −·01 | −·01 |
| Deduced ........ | $3^{h}\ 42^{m}\ 8^{s}{\cdot}019$ | 24° 40′ 48″·67 |
| + 25° 620. | | |
| Provisional...... | $3^{h}\ 42^{m}\ 41^{s}{\cdot}18$ | 25° 29′ 34″·6 |
| 5394 1901. Feb. 1 | +″·21 | −″·30 |
| | Red$^{n}$. to L. −·01 | −·01 |
| Deduced......... | $3^{h}\ 42^{m}\ 41^{s}{\cdot}165$ | 25° 29′ 34″·91 |
| + 23° 561. | | |
| Provisional...... | $3^{h}\ 43^{m}\ 24^{s}{\cdot}10$ | 24° 4′ 32″·5 |
| 5394 1901. Feb. 1 | −″·18 | +″·05 |
| | Red$^{n}$. to L. −·01 | −·01 |
| Deduced......... | $3^{h}\ 43^{m}\ 24^{s}{\cdot}114$ | 24° 4′ 32″·46 |
| + 25° 624. | | |
| Provisional...... | $3^{h}\ 44^{m}\ 18^{s}{\cdot}14$ | 25° 16′ 40″·1 |
| 5394 1901. Feb. 1 | −″·32 | +″·31 |
| | Red$^{n}$. to L. −·01 | −·01 |
| Deduced......... | $3^{h}\ 44^{m}\ 18^{s}{\cdot}164$ | 25° 16′ 39″·80 |
| + 24° 578. | | |
| Provisional...... | $3^{h}\ 44^{m}\ 29^{s}{\cdot}97$ | 24° 11′ 30″·5 |
| 5394 1901. Feb. 1 | −″·13 | −″·04 |
| | Red$^{n}$. to L. −·01 | −·01 |
| Deduced......... | $3^{h}\ 44^{m}\ 29^{s}{\cdot}980$ | 24° 11′ 30″·55 |
| + 24° 583. | | |
| Provisional...... | $3^{h}\ 45^{m}\ 25^{s}{\cdot}71$ | 24° 51′ 39″·2 |
| 5394 1901. Feb. 1 | −″·08 | +″·10 |
| | Red$^{n}$. to L. −·01 | −·01 |
| Deduced......... | $3^{h}\ 45^{m}\ 25^{s}{\cdot}717$ | 24° 51′ 39″·11 |
| + 24° 587. | | |
| Provisional...... | $3^{h}\ 46^{m}\ 12^{s}{\cdot}51$ | 24° 52′ 0″·6 |
| 5394 1901. Feb. 1 | +″·07 | +″·24 |
| | Red$^{n}$. to L. −·01 | −·01 |
| Deduced......... | $3^{h}\ 46^{m}\ 12^{s}{\cdot}506$ | 24° 52′ 0″·37 |
| + 24° 589. | | |
| Provisional...... | $3^{h}\ 46^{m}\ 54^{s}{\cdot}53$ | 24° 25′ 3″·3 |
| 5394 1901. Feb. 1 | −″·02 | +″·07 |
| | Red$^{n}$. to L. −·01 | −·01 |
| Deduced......... | $3^{h}\ 46^{m}\ 54^{s}{\cdot}532$ | 24° 25′ 3″·24 |
| + 25° 637. | | |
| Provisional...... | $3^{h}\ 47^{m}\ 6^{s}{\cdot}66$ | 25° 14′ 12″·4 |
| 5394 1901. Feb. 1 | +″·51 | +″·09 |
| | Red$^{n}$. to L. −·01 | −·01 |
| Deduced......... | $3^{h}\ 47^{m}\ 6^{s}{\cdot}623$ | 25° 14′ 12″·32 |
| + 23° 584. | | |
| Provisional...... | $3^{h}\ 49^{m}\ 4^{s}{\cdot}53$ | 23° 39′ 46″·1 |
| 5397 1901. Feb. 3 | +″·10 | +″·05 |
| 5398 „ | +·10 | +·22 |
| | Mean +·10 | +·14 |
| | Red$^{n}$. to L. +·01 | −·02 |
| Deduced......... | $3^{h}\ 49^{m}\ 4^{s}{\cdot}522$ | 23° 39′ 45″·98 |
| + 24° 595. | | |
| Provisional...... | $3^{h}\ 49^{m}\ 7^{s}{\cdot}58$ | 24° 48′ 40″·7 |
| 5397 1901. Feb. 3 | +″·41 | −″·52 |
| 5398 „ | +·15 | −·25 |
| | Mean +·28 | −·39 |
| | Red$^{n}$. to L. +·01 | −·02 |
| Deduced......... | $3^{h}\ 49^{m}\ 7^{s}{\cdot}559$ | 24° 48′ 41″·11 |
| + 23° 586. | | |
| Provisional...... | $3^{h}\ 49^{m}\ 50^{s}{\cdot}84$ | 23° 32′ 9″·5 |
| 5397 1901. Feb. 3 | +″·23 | +″·44 |
| | Red$^{n}$. to L. +·01 | −·02 |
| Deduced......... | $3^{h}\ 49^{m}\ 50^{s}{\cdot}823$ | 23° 32′ 9″·08 |
| + 23° 589. | | |
| Provisional...... | $3^{h}\ 50^{m}\ 40^{s}{\cdot}79$ | 23° 18′ 14″·6 |
| 5397 1901. Feb. 3 | +″·06 | ″·00 |
| 5398 „ | −·02 | −·26 |
| | Mean +·02 | −·13 |
| | Red$^{n}$ to L. +·01 | −·02 |
| Deduced......... | $3^{h}\ 50^{m}\ 40^{s}{\cdot}788$ | 23° 18′ 14″·75 |

* Weight ½ has been given to these results, the star being between 55′ and 60′ from the centre of the plate.
† Not used in forming the mean, the star being more than 60′ from the centre of the plate.

TABLE VI.—Residuals from Photographs and Deduced Places of Reference Stars.

| Plate No. and Date. | R.A. 1900·0. | Dec. N. 1900·0. |
|---|---|---|
| **+ 24° 598.** | | |
| Provisional…… | $3^{h}\ 51^{m}\ 11^{s}{\cdot}02$ | 24° 59′ 31″·5 |
| 1901. | | |
| 5397 Feb. 3 | −″·02 | −″·21 |
| 5398 ,, | −·18 | +·17 |
| Mean | −·10 | −·02 |
| Red$^{n}$. to L. | +·01 | −·02 |
| Deduced……… | $3^{h}\ 51^{m}\ 11^{s}{\cdot}027$ | 24° 59′ 31″·54 |
| **+ 24° 599.** | | |
| Provisional…… | $3^{h}\ 51^{m}\ 27^{s}{\cdot}57$ | 24° 10′ 19″·7 |
| 1901. | | |
| 5397 Feb. 3 | −″·40 | −″·13 |
| 5398 ,, | −·32 | −·22 |
| Mean | −·36 | −·18 |
| Red$^{n}$. to L. | +·01 | −·02 |
| Deduced……… | $3^{h}\ 51^{m}\ 27^{s}{\cdot}596$ | 24° 10′ 19″·90 |
| **+ 23° 594.** | | |
| Provisional …… | $3^{h}\ 52^{m}\ 22^{s}{\cdot}72$ | 23° 47′ 39″·3 |
| 1901. | | |
| 5397 Feb. 3 | −″·39 | −″·03 |
| 5398 ,, | −·29 | +·07 |
| Mean | −·34 | +·02 |
| Red$^{n}$. to L. | +·01 | −·02 |
| Deduced……… | $3^{h}\ 52^{m}\ 22^{s}{\cdot}744$ | 23° 47′ 39″·30 |
| **+ 23° 600.** | | |
| Provisional…… | $3^{h}\ 53^{m}\ 6^{s}{\cdot}41$ | 23° 20′ 29″·2 |
| 1901. | | |
| 5397 Feb. 3 | −″·46 | −″·12 |
| 5398 ,, | +·06 | −·16 |
| Mean | −·20 | −·14 |
| Red$^{n}$. to L. | +·01 | −·02 |
| Deduced……… | $3^{h}\ 53^{m}\ 6^{s}{\cdot}424$ | 23° 20′ 29″·36 |
| **+ 24° 602.** | | |
| Provisional…… | $3^{h}\ 53^{m}\ 13^{s}{\cdot}13$ | 24° 55′ 47″·2 |
| 1901. | | |
| 5397 Feb. 3 | +″·52 | +″·41 |
| 5398 ,, | +·71 | +·37 |
| Mean | +·62 | +·39 |
| Red$^{n}$. to L. | +·01 | −·02 |
| Deduced……… | $3^{h}\ 53^{m}\ 13^{s}{\cdot}084$ | 24° 55′ 46″·83 |
| **+ 24° 605.** | | |
| Provisional…… | $3^{h}\ 53^{m}\ 54^{s}{\cdot}51$ | 24° 24′ 42″·5 |
| 1901. | | |
| 5397 Feb. 3 | −″·07 | +″·11 |
| 5398 ,, | −·07 | +·03 |
| Mean | −·07 | +·07 |
| Red$^{n}$. to L. | +·01 | −·02 |
| Deduced……… | $3^{h}\ 53^{m}\ 54^{s}{\cdot}515$ | 24° 24′ 42″·45 |
| **+ 22° 613.** | | |
| Provisional…… | $3^{h}\ 54^{m}\ 11^{s}{\cdot}41$ | 23° 6′ 55″·9 |
| 1901. | | |
| 5404 Feb. 5 | +″·38 | −″·10 |
| Red$^{n}$. to L. | ·00 | +·01 |
| Deduced……… | $3^{h}\ 54^{m}\ 11^{s}{\cdot}383$ | 23° 6′ 55″·99 |
| **+ 22° 617 (1st).** | | |
| Provisional…… | $3^{h}\ 55^{m}\ 0^{s}{\cdot}38$ | 22° 55′ 11″·3 |
| 1901. | | |
| 5404 Feb. 6 | −″·43 | +″·13 |
| Red$^{n}$. to L. | +·01 | +·03 |
| Deduced ……. | $3^{h}\ 55^{m}\ 0^{s}{\cdot}411$ | 22° 55′ 11″·14 |
| **+ 22° 617 (2nd).** | | |
| Provisional…… | $3^{h}\ 55^{m}\ 0^{s}{\cdot}84$ | 22° 55′ 6″·7 |
| 1901. | | |
| 5404 Feb. 5 | −″·27 | +″·16 |
| Red$^{n}$. to L. | ·00 | +·01 |
| Deduced……… | $3^{h}\ 55^{m}\ 0^{s}{\cdot}859$ | 22° 55′ 6″·53 |
| **+ 23° 606.** | | |
| Provisional…… | $3^{h}\ 57^{m}\ 48^{s}{\cdot}91$ | 24° 7′ 32″·1 |
| 1901. | | |
| 5404 Feb. 5 | −″·15 | +″·40 |
| Red$^{n}$. to L. | ·00 | +·01 |
| Deduced……… | $3^{h}\ 57^{m}\ 48^{s}{\cdot}921$ | 24° 7′ 31″·69 |
| **+ 23° 609.** | | |
| Provisional…… | $3^{h}\ 58^{m}\ 22^{s}{\cdot}76$ | 23° 49′ 50″·8 |
| 1901. | | |
| 5404 Feb. 5 | −″·31 | −″·13 |
| Red$^{n}$. to L. | ·00 | +·01 |
| Deduced……… | $3^{h}\ 58^{m}\ 22^{s}{\cdot}782$ | 23° 49′ 50″·92 |
| **+ 23° 611.** | | |
| Provisional…… | $3^{h}\ 58^{m}\ 52^{s}{\cdot}39$ | 23° 14′ 5″·2 |
| 1901. | | |
| 5407 Feb. 6 | +″·11 | +″·03 |
| Red$^{n}$. to L. | +·01 | +·03 |
| Deduced……… | $3^{h}\ 58^{m}\ 52^{s}{\cdot}381$ | 23° 14′ 5″·14 |
| **+ 23° 613.** | | |
| Provisional…… | $3^{h}\ 59^{m}\ 17^{s}{\cdot}12$ | 23° 31′ 26″·1 |
| 1901. | | |
| 5404 Feb. 5 | −″·05 | −″·25 |
| 5407 Feb. 6 | +·25* | +·05* |
| Mean | +·05 | −·15 |
| Red$^{n}$. to L. | ·00 | +·02 |
| Deduced……… | $3^{h}\ 59^{m}\ 17^{s}{\cdot}116$ | 23° 31′ 26″·23 |

* Weight ½ has been given to these results, the star being between 55′ and 60′ from the centre of the plate.

† Not used in forming the mean, the star being more than 60′ from the centre of the plate.

TABLE VI.—Residuals from Photographs and Deduced Places of Reference Stars.

| Plate No. and Date. | R.A. 1900·0. | Dec. N. 1900·0. |
|---|---|---|
| **+ 22° 629.** | | |
| Provisional...... | 3$^h$ 59$^m$ 27$^s$·22 | 22° 53′ 44″·6 |
| 1901. | | |
| 5404 Feb. 5 | +″·12 | −″·03 |
| 5407 Feb. 6 | +·02 | +·12 |
| Mean | +·07 | +·05 |
| Red$^n$. to L. | +·01 | +·02 |
| Deduced......... | 3$^h$ 59$^m$ 27$^s$·214 | 22° 53′ 44″·53 |
| **+ 23° 617.** | | |
| Provisional...... | 4$^h$ 0$^m$ 39$^s$·62 | 23° 14′ 51″·5 |
| 1901. | | |
| 5404 Feb. 5 | +″·01 | +″·13 |
| 5407 Feb. 6 | +·11 | +·08 |
| Mean | +·06 | +·11 |
| Red$^n$. to L. | +·01 | +·02 |
| Deduced......... | 4$^h$ 0$^m$ 39$^s$·615 | 23° 14′ 51″·37 |
| **+ 23° 624.** | | |
| Provisional...... | 4$^h$ 2$^m$ 52$^s$·46 | 23° 36′ 19″·7 |
| 1901. | | |
| 5404 Feb. 5 | +″·34† | +″·30† |
| 5407 Feb. 6 | +·04 | +·07 |
| Mean | +·04 | +·07 |
| Red$^n$. to L. | +·01 | +·03 |
| Deduced......... | 4$^h$ 2$^m$ 52$^s$·456 | 23° 36′ 19″·60 |
| **+ 22° 637 (1st).** | | |
| Provisional...... | 4$^h$ 2$^m$ 56$^s$·33 | 22° 49′ 54″·5 |
| 1901. | | |
| 5404 Feb. 5 | +″·25† | −″·31† |
| 5407 Feb. 6 | +·01 | −·05 |
| Mean | +·01 | −·05 |
| Red$^n$. to L. | +·01 | +·03 |
| Deduced......... | 4$^h$ 2$^m$ 56$^s$·329 | 22° 49′ 54″·52 |
| **+ 22° 637 (2nd).** | | |
| Provisional...... | 4$^h$ 2$^m$ 56$^s$·39 | 22° 49′ 59″·9 |
| 1901. | | |
| 5404 Feb. 5 | +″·06† | −″·32† |
| 5407 Feb. 6 | +·01 | −·29 |
| Mean | +·01 | −·29 |
| Red$^n$. to L. | +·01 | +·03 |
| Deduced......... | 4$^h$ 2$^m$ 56$^s$·389 | 22° 50′ 0″·16 |
| **+ 23° 632.** | | |
| Provisional...... | 4$^h$ 4$^m$ 17$^s$·50 | 23° 43′ 6″·0 |
| 1901. | | |
| 5407 Feb. 6 | −″·30 | +″·02 |
| Red$^n$. to L. | +·01 | +·03 |
| Deduced......... | 4$^h$ 4$^m$ 17$^s$·521 | 23° 43′ 5″·95 |
| **+ 23° 642.** | | |
| Provisional...... | 4$^h$ 6$^m$ 26$^s$·49 | 23° 19′ 1″·1 |
| 1901. | | |
| 5407 Feb. 6 | −″·29 | −″·15 |
| Red$^n$. to L. | +·01 | +·03 |
| Deduced......... | 4$^h$ 6$^m$ 26$^s$·510 | 23° 19′ 1″·22 |
| **+ 23° 645.** | | |
| Provisional...... | 4$^h$ 6$^m$ 48$^s$·04 | 23° 15′ 48″·9 |
| 1901. | | |
| 5407 Feb. 6 | +″·40 | −″·09 |
| Red$^n$. to L. | +·01 | +·03 |
| Deduced......... | 4$^h$ 6$^m$ 48$^s$·010 | 23° 15′ 48″·96 |
| **+ 22° 649.** | | |
| Provisional...... | 4$^h$ 6$^m$ 55$^s$·41 | 22° 9′ 23″·0 |
| 1901. | | |
| 5407 Feb. 6 | −″·36 | +·16 |
| Red$^n$. to L. | +·01 | +·03 |
| Deduced......... | 4$^h$ 6$^m$ 55$^s$·435 | 22° 9′ 22″·81 |
| **+ 21° 635.** | | |
| Provisional...... | 4$^h$ 17$^m$ 27$^s$·20 | 21° 8′ 44″·4 |
| 1901. | | |
| 5408 Feb. 11 | +″·60 | −″·01 |
| 5409 ” | +·14 | −·02 |
| 5412 ” | +·68 | −·22 |
| 5413 ” | +·36 | −·08 |
| Mean | +·45 | −·08 |
| Red$^n$. to L. | −·01 | +·01 |
| Deduced......... | 4$^h$ 17$^m$ 27$^s$·169 | 21° 8′ 44″·47 |
| **+ 20° 751.** | | |
| Provisional...... | 4$^h$ 17$^m$ 38$^s$·74 | 20° 44′ 56″·5 |
| 1901. | ″ | ″ |
| 5408 Feb. 11 | −·25 | +·15 |
| 5409 ” | −·52 | +·30 |
| 5412 ” | −·21 | +·45 |
| 5413 ” | −·47 | +·25 |
| Mean | −·36 | +·29 |
| Red$^n$. to L. | −·01 | +·01 |
| Deduced......... | 4$^h$ 17$^m$ 38$^s$·766 | 20° 44′ 56″·20 |
| **+ 21° 639.** | | |
| Provisional...... | 4$^h$ 18$^m$ 6$^s$·03 | 21° 18′ 28″·3 |
| 1901. | | |
| 5408 Feb. 11 | +″·28 | +″·01 |
| 5409 ” | +·23 | +·09 |
| 5412 ” | +·35 | −·22 |
| 5413 ” | +·21 | +·16 |
| Mean | +·27 | +·01 |
| Red$^n$. to L. | −·01 | +·01 |
| Deduced......... | 4$^h$ 18$^m$ 6$^s$·012 | 21° 18′ 28″·28 |

* Weight ½ has been given to these results, the star being between 55′ and 60′ from the centre of the plate.
† Not used in forming the mean, the star being more than 60′ from the centre of the plate.

TABLE VI.—Residuals from Photographs and Deduced Places of Reference Stars.

| Plate No. and Date. | R.A. 1900·0. | Dec. N. 1900·0. |
|---|---|---|
| + 21° 641. | | |
| Provisional…… | $4^h\ 18^m\ 18^s{\cdot}31$ | 21° 30′ 17″·9 |
| 1901. | ″ | ″ |
| 5408 Feb. 11 | −·49 | +·06 |
| 5409 " | −·36 | +·26 |
| 5412 " | −·26 | −·10 |
| 5413 " | −·35 | +·10 |
| Mean | −·37 | +·08 |
| Red$^n$. to L. | −·01 | +·01 |
| Deduced……… | $4^h\ 18^m\ 18^s{\cdot}337$ | 21° 30′ 17″·81 |
| + 20° 754. | | |
| Provisional…… | $4^h\ 19^m\ 53^s{\cdot}55$ | 20° 54′ 30″·2 |
| 1901. | ″ | ″ |
| 5408 Feb. 11 | −·05 | −·15 |
| 5409 " | +·25 | −·13 |
| 5412 " | −·13 | −·21 |
| 5413 " | +·17 | −·09 |
| Mean | +·06 | −·15 |
| Red$^n$. to L. | −·01 | +·01 |
| Deduced……… | $4^h\ 19^m\ 53^s{\cdot}546$ | 20° 54′ 30″·34 |
| + 21° 644. | | |
| Provisional…… | $4^h\ 20^m\ 22^s{\cdot}81$ | 21° 14′ 36″·8 |
| 1901. | ″ | ″ |
| 5408 Feb. 11 | +·12 | +·05 |
| 5409 " | +·08 | +·02 |
| 5412 " | +·10 | +·01 |
| 5413 " | +·06 | +·03 |
| Mean | +·09 | +·03 |
| Red$^n$. to L. | −·01 | +·01 |
| Deduced……… | $4^h\ 20^m\ 22^s{\cdot}804$ | 21° 14′ 36″·76 |
| + 20° 756. | | |
| Provisional…… | $4^h\ 21^m\ 13^s{\cdot}49$ | 20° 45′ 58″·2 |
| 1901. | ″ | ″ |
| 5408 Feb. 11 | +·31 | ·00 |
| 5409 " | +·30 | −·05 |
| 5412 " | +·20 | +·10 |
| + 20° 756—*contd.* | | |
| 1901. | ″ | ″ |
| 5413 Feb. 11 | +·18 | −·11 |
| 5414 Feb. 12 | +·48 | +·17 |
| 5415 " | +·05 | +·06 |
| 5416 " | +·46 | +·06 |
| Mean | +·29 | +·03 |
| Red$^n$. to L. | −·01 | ·00 |
| Deduced……… | $4^h\ 21^m\ 13^s{\cdot}470$ | 20° 45′ 58″·17 |
| + 21° 647. | | |
| Provisional…… | $4^h\ 22^m\ 4^s{\cdot}57$ | 21° 23′ 49″·1 |
| 1901. | ″ | ″ |
| 5408 Feb. 11 | −·52 | +·27 |
| 5409 " | −·42 | +·03 |
| 5412 " | −·59 | +·09 |
| 5413 " | −·52 | +·28 |
| 5414 Feb. 12 | −·79* | +·40* |
| 5415 " | −·83* | +·52* |
| 5416 " | −·40* | +·33* |
| Mean | −·56 | +·24 |
| Red$^n$. to L. | −·01 | ·00 |
| Deduced……… | $4^h\ 22^m\ 4^s{\cdot}610$ | 21° 23′ 48″·86 |
| + 20° 760. | | |
| Provisional…… | $4^h\ 22^m\ 44^s{\cdot}32$ | 20° 36′ 35″·5 |
| 1901. | ″ | ″ |
| 5408 Feb. 11 | +·17 | −·21 |
| 5409 " | +·45 | −·33 |
| 5412 " | +·03 | −·01 |
| 5413 " | +·34 | −·15 |
| 5414 Feb. 12 | +·23 | −·09 |
| 5415 " | +·08 | −·06 |
| 5416 " | +·35 | −·20 |
| Mean | +·24 | −·15 |
| Red$^n$. to L. | −·01 | ·00 |
| Deduced……… | $4^h\ 22^m\ 44^s{\cdot}304$ | 20° 36′ 35″·65 |
| + 20° 761. | | |
| Provisional…… | $4^h\ 22^m\ 48^s{\cdot}89$ | 20° 27′ 18″·2 |
| 1901. | ″ | ″ |
| 5408 Feb. 11 | −·20 | −·13 |
| 5409 " | −·12 | −·16 |
| 5412 " | −·15 | +·11 |
| 5413 " | −·01 | −·36 |
| 5414 Feb. 12 | ·00 | −·09 |
| 5415 " | −·05 | −·04 |
| 5416 " | −·03 | −·18 |
| Mean | −·08 | −·12 |
| Red$^n$. to L. | −·01 | ·00 |
| Deduced……… | $4^h\ 22^m\ 48^s{\cdot}896$ | 20° 27′ 18″·32 |
| + 19° 731. | | |
| Provisional…… | $4^h\ 24^m\ 25^s{\cdot}94$ | 19° 37′ 21″·0 |
| 1901. | ″ | ″ |
| 5414 Feb. 12 | +·01 | −·04 |
| 5415 " | −·02 | −·11 |
| 5416 " | −·13 | +·13 |
| 5420 Feb. 13 | −·18 | +·05 |
| 5421 " | −·14 | +·29 |
| 5422 " | −·43 | +·19 |
| 5426 " | −·46 | +·16 |
| 5427 " | −·50 | −·22 |
| Mean | −·22 | +·05 |
| Red$^n$. to L. | −·03 | −·01 |
| Deduced……… | $4^h\ 24^m\ 25^s{\cdot}957$ | 19° 37′ 20″·96 |
| + 19° 733. | | |
| Provisional…… | $4^h\ 25^m\ 22^s{\cdot}82$ | 19° 55′ 2″·6 |
| 1901. | ″ | ″ |
| 5414 Feb. 12 | −·03 | −·07 |
| 5415 " | +·22 | +·15 |
| 5416 " | +·01 | +·11 |
| 5420 Feb. 13 | +·10 | +·06 |
| 5421 " | +·26 | −·06 |
| 5422 " | +·05 | +·28 |
| 5426 " | +·34 | +·08 |
| 5427 " | +·09 | +·15 |
| Mean | +·13 | +·08 |
| Red$^n$. to L. | −·03 | −·01 |
| Deduced……… | $4^h\ 25^m\ 22^s{\cdot}813$ | 19° 55′ 2″·53 |

* Weight ½ has been given to these results, the star being between 55′ and 60′ from the centre of the plate.

† Not used in forming the mean, the star being more than 60′ from the centre of the plate.

## TABLE VI.—Residuals from Photographs and Deduced Places of Reference Stars.

+ 20° 772.

| Plate No. and Date. | R.A. 1900·0. | Dec. N. 1900·0. |
|---|---|---|
| Provisional...... | $4^{h}\,25^{m}\,45^{s}{\cdot}61$ | 20° 34′ 3″·8 |
| 1901. | | |
| 5415 Feb. 12 | +″·41 | −″·20 |
| 5420 Feb. 13 | +·12 | +·29 |
| 5421 " | +·71 | +·17 |
| 5422 " | +·31 | +·21 |
| 5426 " | +·45 | +·04 |
| 5427 " | +·32 | +·38 |
| Mean | +·39 | +·10 |
| $\text{Red}^{n}$. to L. | −·04 | −·01 |
| Deduced......... | $4^{h}\,25^{m}\,45^{s}{\cdot}585$ | 20° 34′ 3″·71 |

+ 21° 657.

| Plate No. and Date. | R.A. 1900·0. | Dec. N. 1900·0. |
|---|---|---|
| Provisional...... | $4^{h}\,26^{m}\,11^{s}{\cdot}99$ | 21° 25′ 3″·1 |
| 1901. | | |
| 5414 Feb. 12 | −″·38 | +″·36 |
| 5415 " | −·41 | +·04 |
| 5416 " | −·42 | +·17 |
| Mean | −·40 | +·19 |
| $\text{Red}^{n}$. to L. | −·01 | −·01 |
| Deduced......... | $4^{h}\,26^{m}\,12^{s}{\cdot}019$ | 21° 25′ 2″·92 |

+ 19° 736.

| Plate No. and Date. | R.A. 1900·0. | Dec. N. 1900·0. |
|---|---|---|
| Provisional...... | $4^{h}\,27^{m}\,31^{s}{\cdot}75$ | 19° 36′ 7″·1 |
| 1901. | | |
| 5414 Feb. 12 | +″·12† | −″·51† |
| 5416 " | −·01† | −·44† |
| 5420 Feb. 13 | +·37 | −·18 |
| 5421 " | +·31 | −·17 |
| 5422 " | +·32 | −·06 |
| 5426 " | +·31 | −·18 |
| 5427 " | +·21 | −·15 |
| Mean | +·30 | −·15 |
| $\text{Red}^{n}$. to L. | −·05 | −·01 |
| Deduced......... | $4^{h}\,27^{m}\,31^{s}{\cdot}733$ | 19° 36′ 7″·26 |

+ 20° 778.

| Plate No. and Date. | R.A. 1900·0. | Dec. N. 1900·0. |
|---|---|---|
| Provisional...... | $4^{h}\,28^{m}\,51^{s}{\cdot}80$ | 20° 53′ 43″·5 |
| 1901. | | |
| 5414 Feb. 12 | +″·40† | −″·09† |
| 5415 " | +·57† | −·39† |
| 5416 " | +·17† | +·01† |
| 5420 Feb. 13 | −·16 | −·01 |
| 5421 " | +·02 | −·18 |
| 5422 " | ·00 | −·16 |
| 5426 " | −·08 | −·19 |
| 5427 " | +·11 | +·16 |
| Mean | −·02 | −·08 |
| $\text{Red}^{n}$. to L. | −·05 | −·01 |
| Deduced......... | $4^{h}\,28^{m}\,51^{s}{\cdot}805$ | 20° 53′ 43″·59 |

+ 19° 740.

| Plate No. and Date. | R.A. 1900·0. | Dec. N. 1900·0. |
|---|---|---|
| Provisional...... | $4^{h}\,29^{m}\,47^{s}{\cdot}94$ | 19° 45′ 47″·9 |
| 1901. | | |
| 5420 Feb. 13 | −″·24 | +″·18 |
| 5421 " | −·50 | +·22 |
| 5422 " | −·27 | +·18 |
| 5426 " | −·29 | +·14 |
| 5427 " | −·16 | +·13 |
| 5428 Feb. 14 | −·35 | +·25 |
| Mean | −·31 | +·19 |
| $\text{Red}^{n}$. to L. | −·05 | −·01 |
| Deduced......... | $4^{h}\,29^{m}\,47^{s}{\cdot}965$ | 19° 45′ 47″·72 |

+ 19° 742.

| Plate No. and Date. | R.A. 1900·0. | Dec. N. 1900·0. |
|---|---|---|
| Provisional...... | $4^{h}\,29^{m}\,50^{s}{\cdot}78$ | 19° 40′ 31″·3 |
| 1901. | | |
| 5420 Feb. 13 | −″·17 | −″·09 |
| 5421 " | −·30 | +·06 |
| 5422 " | −·08 | −·21 |
| 5426 " | −·18 | −·08 |
| 5427 " | −·26 | −·15 |
| 5428 Feb. 14 | −·54 | −·23 |
| Mean | −·30 | −·13 |
| $\text{Red}^{n}$. to L. | −·05 | −·01 |
| Deduced......... | $4^{h}\,29^{m}\,50^{s}{\cdot}804$ | 19° 40′ 31″·44 |

+ 19° 744.

| Plate No. and Date. | R.A. 1900·0. | Dec. N. 1900·0. |
|---|---|---|
| Provisional...... | $4^{h}\,30^{m}\,43^{s}{\cdot}10$ | 19° 33′ 18″·5 |
| 1901. | | |
| 5420 Feb. 13 | −″·05 | ″·00 |
| 5421 " | −·01 | +·04 |
| 5422 " | ·00 | −·06 |
| 5426 " | −·04 | +·08 |
| 5427 " | +·15 | −·12 |
| 5428 Feb. 14 | −·17 | −·01 |
| Mean | −·04 | −·01 |
| $\text{Red}^{n}$. to L. | −·05 | −·01 |
| Deduced......... | $4^{h}\,30^{m}\,43^{s}{\cdot}106$ | 19° 33′ 18″·52 |

+ 19° 745.

| Plate No. and Date. | R.A. 1900·0. | Dec. N. 1900·0. |
|---|---|---|
| Provisional...... | $4^{h}\,30^{m}\,51^{s}{\cdot}32$ | 19° 17′ 21″·9 |
| 1901. | | |
| 5420 Feb. 13 | +″·17† | −″·20† |
| 5421 " | +·14† | −·45† |
| 5422 " | +·53† | −·42† |
| 5426 " | +·31† | −·34† |
| 5427 " | +·62† | −·27† |
| 5428 Feb. 14 | +·22 | −·04 |
| Mean | +·22 | −·04 |
| $\text{Red}^{n}$. to L. | −·06 | ·00 |
| Deduced......... | $4^{h}\,30^{m}\,51^{s}{\cdot}309$ | 19° 17′ 21″·94 |

+ 20° 785.

| Plate No. and Date. | R.A. 1900·0. | Dec. N. 1900·0. |
|---|---|---|
| Provisional...... | $4^{h}\,32^{m}\,21^{s}{\cdot}83$ | 20° 29′ 1″·9 |
| 1901. | | |
| 5420 Feb. 13 | +″·06† | −″·09† |
| 5421 " | −·44† | +·08† |
| 5422 " | −·38† | +·02† |
| 5426 " | −·38† | +·25† |
| 5427 " | −·54† | +·09† |
| 5428 Feb. 14 | −·34 | +·08 |
| Mean | −·34 | +·08 |
| $\text{Red}^{n}$. to L. | −·06 | ·00 |
| Deduced......... | $4^{h}\,32^{m}\,21^{s}{\cdot}858$ | 20° 29′ 1″·82 |

---

* Weight ½ has been given to these results, the star being between 55′ and 60′ from the centre of the plate.
† Not used in forming the mean, the star being more than 60′ from the centre of the plate.

TABLE VI.—Residuals from Photographs and Deduced Places of Reference Stars.

| Plate No. and Date. | R.A. 1900·0. | Dec. N. 1900·0. |
|---|---|---|
| + 18° 666. | | |
| Provisional…… | 4$^{h}$ 32$^{m}$ 41$^{s}$·75 | 18° 31′ 59″·9 |
| 1901. | | |
| 5429 Feb. 15 | −″·37 | −″·26 |
| 5430 ” | +·03 | −·09 |
| 5431 ” | +·13 | +·07 |
| | Mean −·07 | −·09 |
| | Red$^{n}$. to L. −·02 | ·00 |
| Deduced……… | 4$^{h}$ 32$^{m}$ 41$^{s}$·756 | 18° 31′ 59″·99 |
| + 19° 755. | | |
| Provisional…… | 4$^{h}$ 35$^{m}$ 42$^{s}$·51 | 20° 4′ 13″·6 |
| 1901. | | |
| 5428 Feb. 14 | +″·42* | +″·06* |
| 5429 Feb. 15 | −·34 | +·27 |
| 5430 ” | −·32 | +·24 |
| 5431 ” | −·20 | −·07 |
| | Mean −·15 | +·13 |
| | Red$^{n}$. to L. −·03 | ·00 |
| Deduced……… | 4$^{h}$ 35$^{m}$ 42$^{s}$·523 | 20° 4′ 13″·47 |
| + 19° 759. | | |
| Provisional…… | 4$^{h}$ 35$^{m}$ 51$^{s}$·30 | 19° 53′ 43″·9 |
| 1901. | | |
| 5428 Feb. 14 | +″·75* | −″·10* |
| 5429 Feb. 15 | +·32 | −·04 |
| 5430 ” | +·16 | −·11 |
| 5431 ” | +·10 | −·22 |
| | Mean +·30 | −·12 |
| | Red$^{n}$. to L. −·03 | ·00 |
| Deduced……… | 4$^{h}$ 35$^{m}$ 51$^{s}$·281 | 19° 53′ 44″·02 |
| + 18° 684. | | |
| Provisional…… | 4$^{h}$ 37$^{m}$ 1$^{s}$·38 | 18° 31′ 56″·5 |
| 1901. | | |
| 5429 Feb. 15 | −″·07 | +″·16 |
| 5430 ” | −·13 | +·19 |
| 5431 ” | −·14 | +·37 |
| | Mean −·11 | +·24 |
| | Red$^{n}$. to L. −·02 | ·00 |
| Deduced……… | 4$^{h}$ 37$^{m}$ 1$^{s}$·389 | 18° 31′ 56″·26 |
| + 19° 774. | | |
| Provisional…… | 4$^{h}$ 39$^{m}$ 43$^{s}$·44 | 19° 8′ 38″·1 |
| 1901. | | |
| 5429 Feb. 15 | +″·45 | −″·14 |
| 5430 ” | +·27 | −·22 |
| 5431 ” | +·12 | −·15 |
| 5434 Feb. 17 | +·27 | −·68 |
| | Mean +·28 | −·34 |
| | Red$^{n}$. to L. −·02 | ·00 |
| Deduced……… | 4$^{h}$ 39$^{m}$ 43$^{s}$·422 | 19° 8′ 38″·44 |
| + 18° 717. | | |
| Provisional…… | 4$^{h}$ 40$^{m}$ 15$^{s}$·07 | 18° 37′ 3″·4 |
| 1901. | | |
| 5434 Feb. 17 | −″·20 | −″·06 |
| | Red$^{n}$. to L. −·02 | +·03 |
| Deduced……… | 4$^{h}$ 40$^{m}$ 15$^{s}$·085 | 18° 37′ 3″·43 |
| + 18° 719. | | |
| Provisional…… | 4$^{h}$ 40$^{m}$ 26$^{s}$·42 | 18° 33′ 13″·9 |
| 1901. | | |
| 5434 Feb. 17 | −″·39 | −″·19 |
| | Red$^{n}$. to L. −·02 | +·03 |
| Deduced……… | 4$^{h}$ 40$^{m}$ 26$^{s}$·449 | 18° 33′ 14″·06 |
| + 19° 777. | | |
| Provisional…… | 4$^{h}$ 40$^{m}$ 44$^{s}$·16 | 19° 18′ 44″·0 |
| 1901. | | |
| 5434 Feb. 17 | −″·20 | −″·19 |
| | Red$^{n}$. to L. −·02 | +·03 |
| Deduced……… | 4$^{h}$ 40$^{m}$ 44$^{s}$·176 | 19° 18′ 44″·16 |
| + 18° 725 | | |
| Provisional…… | 4$^{h}$ 41$^{m}$ 4$^{s}$·00 | 18° 53′ 56″·2 |
| 1901. | | |
| 5434 Feb. 17 | +″·41 | −″·15 |
| | Red$^{n}$. to L. −·02 | +·03 |
| Deduced……… | 4$^{h}$ 41$^{m}$ 3$^{s}$·973 | 18° 53′ 56″·32 |
| + 18° 727. | | |
| Provisional…… | 4$^{h}$ 41$^{m}$ 17$^{s}$·83 | 18° 18′ 27″·7 |
| 1901. | | |
| 5434 Feb. 17 | +″·21 | −″·15 |
| | Red$^{n}$. to L. −·02 | +·03 |
| Deduced……… | 4$^{h}$ 41$^{m}$ 17$^{s}$·817 | 18° 18′ 27″·82 |
| + 19° 782. | | |
| Provisional…… | 4$^{h}$ 41$^{m}$ 51$^{s}$·38 | 19° 8′ 22″·6 |
| 1901. | | |
| 5434 Feb. 17 | +″·39 | ″·00 |
| | Red$^{n}$. to L. −·02 | +·03 |
| Deduced……… | 4$^{h}$ 41$^{m}$ 51$^{s}$·354 | 19° 8′ 22″·57 |
| + 18° 734. | | |
| Provisional…… | 4$^{h}$ 42$^{m}$ 50$^{s}$·80 | 18° 32′ 33″·9 |
| 1901. | | |
| 5434 Feb. 17 | −″·16 | +″·24 |
| | Red$^{n}$. to L. −·02 | +·03 |
| Deduced……… | 4$^{h}$ 42$^{m}$ 50$^{s}$·813 | 18° 32′ 33″·63 |
| + 18° 738. | | |
| Provisional…… | 4$^{h}$ 44$^{m}$ 27$^{s}$·34 | 19° 1′ 10″·9 |
| 1901. | | |
| 5434 Feb. 17 | +″·29 | +″·50 |
| | Red$^{n}$. to L. −·02 | +·03 |
| Deduced……… | 4$^{h}$ 44$^{m}$ 27$^{s}$·321 | 19° 1′ 10″·37 |
| + 18° 743. | | |
| Provisional…… | 4$^{h}$ 45$^{m}$ 31$^{s}$·41 | 18° 40′ 11″·0 |
| 1901. | | |
| 5434 Feb. 17 | −″·58 | +″·73 |
| | Red$^{n}$. to L. −·02 | +·03 |
| Deduced……… | 4$^{h}$ 45$^{m}$ 31$^{s}$·452 | 18° 40′ 10″·24 |

* Weight ½ has been given to these results, the star being between 55′ and 60′ from the centre of the plate.
† Not used in forming the mean, the star being more than 60′ from the centre of the plate.

TABLE VI.—Residuals from Photographs and Deduced Places of Reference Stars.

| Plate No. and Date. | R.A. 1900·0. | Dec. N. 1900·0. |
|---|---|---|
| | + 17° 814. | |
| Provisional...... | $4^{h}\ 50^{m}\ 41^{s}{\cdot}32$ | 17° 50′ 43″·6 |
| 1901. | | |
| 5436 Feb. 20 | −″·03 | +″·12 |
| 5438 ” | +·01 | +·02 |
| 5441 ” | −·08 | +·10 |
| | Mean −·03 | +·08 |
| | Red$^{n}$. to L. ·00 | +·02 |
| Deduced......... | $4^{h}\ 50^{m}\ 41^{s}{\cdot}322$ | 17° 50′ 43″·50 |
| | + 16° 671. | |
| Provisional...... | $4^{h}\ 51^{m}\ 1^{s}{\cdot}87$ | 16° 34′ 36″·2 |
| 1901. | | |
| 5436 Feb. 20 | −″·53 | −″·09 |
| 5438 ” | −·51 | ·00 |
| 5441 ” | −·47 | +·13 |
| | Mean −·50 | +·01 |
| | Red$^{n}$. to L. ·00 | +·02 |
| Deduced......... | $4^{h}\ 51^{m}\ 1^{s}{\cdot}905$ | 16° 34′ 36″·17 |
| | + 16° 672. | |
| Provisional...... | $4^{h}\ 51^{m}\ 35^{s}{\cdot}73$ | 16° 59′ 48″·4 |
| 1901. | | |
| 5436 Feb. 20 | −″·80 | +″·18 |
| 5438 ” | −·84 | +·12 |
| 5441 ” | −·91 | +·15 |
| | Mean −·85 | +·15 |
| | Red$^{n}$. to L. ·00 | +·02 |
| Deduced......... | $4^{h}\ 51^{m}\ 35^{s}{\cdot}789$ | 16° 59′ 48″·23 |
| | + 16° 679. | |
| Provisional...... | $4^{h}\ 54^{m}\ 6^{s}{\cdot}94$ | 16° 40′ 41″·3 |
| 1901. | | |
| 5436 Feb. 20 | +″·41 | −″·12 |
| 5438 ” | +·37 | −·10 |
| 5441 ” | +·29 | −·15 |
| | Mean +·36 | −·12 |
| | Red$^{n}$. to L. ·00 | +·02 |
| Deduced......... | $4^{h}\ 54^{m}\ 6^{s}{\cdot}915$ | 16° 40′ 41″·40 |
| | + 16° 685. | |
| Provisional...... | $4^{h}\ 56^{m}\ 8^{s}{\cdot}53$ | 16° 41′ 13′·1 |
| 1901. | | |
| 5436 Feb. 20 | +″·46 | −″·08 |
| 5438 ” | +·52 | +·01 |
| 5441 ” | +·55 | −·26 |
| | Mean +·51 | −·11 |
| | Red$^{n}$. to L. ·00 | +·02 |
| Deduced......... | $4^{h}\ 56^{m}\ 8^{s}{\cdot}495$ | 16° 41′ 13″·19 |
| | + 16° 688. | |
| Provisional...... | $4^{h}\ 58^{m}\ 17^{s}{\cdot}84$ | 16° 59′ 5″·8 |
| 1901. | | |
| 5436 Feb. 20 | +″·50 | −″·03 |
| 5438 ” | +·44 | −·03 |
| 5441 ” | +·60 | +·06 |
| | Mean +·51 | ·00 |
| | Red$^{n}$. to L. ·00 | +·02 |
| Deduced......... | $4^{h}\ 58^{m}\ 17^{s}{\cdot}805$ | 16° 59′ 5″·78 |
| | + 16° 742. | |
| Provisional...... | $5^{h}\ 11^{m}\ 20^{s}{\cdot}02$ | 16° 14′ 30″·6 |
| 1901. | | |
| 5452 Feb. 25 | −″·10 | +″·17 |
| | Red$^{n}$. to L. −·02 | −·02 |
| Deduced......... | $5^{h}\ 11^{m}\ 20^{s}{\cdot}028$ | 16° 14′ 30″·45 |
| | + 15° 779. | |
| Provisional...... | $5^{h}\ 11^{m}\ 25^{s}{\cdot}00$ | 15° 9′ 14″·0 |
| 1901. | | |
| 5452 Feb. 25 | −″·22 | −″·29 |
| | Red$^{n}$. to L. −·02 | −·02 |
| Deduced......... | $5^{h}\ 11^{m}\ 25^{s}{\cdot}017$ | 15° 9′ 14″·31 |
| | + 15° 789. | |
| Provisional...... | $5^{h}\ 14^{m}\ 18^{s}{\cdot}57$ | 16° 1′ 7″·2 |
| 1901. | | |
| 5452 Feb. 25 | +″·47 | −″·30 |
| | Red$^{n}$. to L. −·02 | −·02 |
| Deduced......... | $5^{h}\ 14^{m}\ 18^{s}{\cdot}539$ | 16° 1′ 7″·52 |
| | + 14° 881. | |
| Provisional...... | $5^{h}\ 14^{m}\ 53^{s}{\cdot}28$ | 14° 57′ 26″·8 |
| 1901. | | |
| 5452 Feb. 25 | −″·05 | +″·10 |
| | Red$^{n}$. to L. −·02 | −·02 |
| Deduced......... | $5^{h}\ 14^{m}\ 53^{s}{\cdot}285$ | 14° 57′ 26″·72 |
| | + 15° 790. | |
| Provisional...... | $5^{h}\ 14^{m}\ 59^{s}{\cdot}32$ | 15° 32′ 6″·9 |
| 1901. | | |
| 5452 Feb. 25 | +″·08 | +″·18 |
| | Red$^{n}$. to L. −·02 | −·02 |
| Deduced......... | $5^{h}\ 14^{m}\ 59^{s}{\cdot}316$ | 15° 32′ 6″·74 |
| | + 15° 795. | |
| Provisional...... | $5^{h}\ 15^{m}\ 54^{s}{\cdot}85$ | 15° 44′ 55 ·5 |
| 1901. | | |
| 5452 Feb. 25 | −″·17 | +″·16 |
| | Red$^{n}$. to L. −·02 | −·02 |
| Deduced......... | $5^{h}\ 15^{m}\ 54^{s}{\cdot}863$ | 15° 44′ 55″·36 |

* Weight ½ has been given to these results, the star being between 55′ and 60′ from the centre of the plate.
† Not used in forming the mean, the star being more than 60′ from the centre of the plate.

## TABLE VII.—Mean Places of Reference Stars, 1900·0.

| Number in B.D. | Right Ascension. | | | Declination. | | | Number in B.D. | Right Ascension. | | | Declination. | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Finally Adopted. | Seconds from Loewy. | Seconds provisionally used. | Finally Adopted. | Seconds from Loewy. | Seconds provisionally used. | | Finally Adopted. | Seconds from Loewy. | Seconds provisionally used. | Finally Adopted. | Seconds from Loewy. | Seconds provisionally used. |
| ° | h m s | s | s | ° ′ ″ | ″ | ″ | ° | h m s | s | s | ° ′ ″ | ″ | ″ |
| + 49 399 | 1 24 0·477 | 0·472 | 0·47 | + 49 25 30·86 | 30·78 | 30·8 | + 45 416 | 1 35 22·657 | 22·670 | 22·66 | + 45 54 23·81 | 23·90 | 23·8 |
| 46 370 | 24 6·150 | 6·082 | 6·10 | 46 29 29·40 | 29·19 | 29·3 | 52 406 | 35 23·220 | 23·234 | 23·22 | 52 52 14·31 | 14·40 | 14·4 |
| 51 317 | 24 26·123 | 26·145 | 26·15 | 51 34 41·92 | 41·68 | 41·5 | 44 352 | 35 50·848 | 50·834 | 50·84 | 45 4 17·99 | 17·87 | 17·8 |
| 47 429 | 24 33·544 | 33·509 | 33·51 | 47 22 50·04 | 50·37 | 50·3 | 42 351 | 35 57·958 | 57·980 | 58·00 | 42 21 32·13 | 32·09 | 32·0 |
| 46 373 | 24 47·948 | 47·933 | 47·93 | 47 3 4·57 | 4·58 | 4·5 | 42 352 | 36 3·710 | 3·681 | 3·70 | 43 8 4·07 | 4·28 | 4·2 |
| 47 434 | 24 51·675 | 51·700 | 51·71 | 47 54 4·40 | 4·42 | 4·4 | 42 354 | 36 15·962 | 15·962 | 15·96 | 42 30 57·03 | 57·03 | 56·9 |
| 48 453 | 24 54·367 | 54·310 | 54·32 | 48 49 42·30 | 42·44 | 42·4 | 45 422 | 36 23·925 | 23·970 | 23·98 | 45 32 9·76 | 9·95 | 10·0 |
| 48 454 | 25 25·831 | 25·859 | 25·86 | 48 31 27·59 | 27·56 | 27·5 | 44 354 | 37 11·200 | 11·166 | 11·17 | 44 49 5·37 | 5·35 | 5·3 |
| 48 455 | 25 26·346 | 26·349 | 26·34 | 48 16 17·76 | 17·61 | 17·5 | 52 420 | 37 17·186 | 17·158 | 17·16 | 52 22 54·40 | 54·32 | 54·2 |
| 51 323 | 25 46·522 | 46·488 | 46·48 | 51 57 17·07 | 17·30 | 17·2 | 42 356 | 37 17·348 | 17·380 | 17·38 | 43 12 1·65 | 1·70 | 1·7 |
| 50 298 | 26 12·654 | 12·690 | 12·70 | 50 38 51·82 | 52·43 | 52·1 | 53 375 | 37 25·589 | 25·565 | 25·55 | 53 26 42·16 | 42·04 | 42·0 |
| 47 442 | 26 16·890 | 16·905 | 16·90 | 47 54 13·10 | 12·92 | 12·9 | 54 368 | 37 47·026 | 46·992 | 46·98 | 54 22 59·73 | 59·83 | 59·8 |
| 50 299 | 26 22·589 | 22·589 | 22·59 | 50 18 34·43 | 34·43 | 34·4 | 52 424 | 37 58·545 | 58·532 | 58·52 | 52 41 8·65 | 8·63 | 8·6 |
| 50 300 | 26 48·651 | 48·703 | 48·72 | 50 58 5·12 | 5·11 | 5·0 | 42 360 | 38 5·301 | 5·284 | 5·28 | 42 44 13·95 | 14·02 | 13·9 |
| 50 301 | 26 59·896 | 59·896 | 59·90 | 50 22 1·08 | 1·08 | 1·1 | 42 361 | 38 13·553 | 13·564 | 13·55 | 43 8 41·95 | 41·96 | 42·0 |
| 48 463 | 27 16·204 | 16·216 | 16·21 | 48 30 18·73 | 18·85 | 18·9 | 52 433 | 39 43·332 | 43·347 | 43·33 | 53 6 22·56 | 22·53 | 22·5 |
| 51 331 | 27 58·689 | 58·689 | 58·69 | 51 19 13·34 | 13·53 | 13·4 | 43 364 | 40 15·623 | 15·620 | 15·62 | 44 8 45·16 | 45·21 | 45·0 |
| 45 376 | 28 0·372 | 0·363 | 0·36 | 45 27 47·45 | 47·48 | 47·3 | 42 370 | 40 16·765 | 16·732 | 16·73 | 43 12 17·04 | 16·93 | 16·9 |
| 47 450 | 28 5·321 | 5·319 | 5·32 | 47 54 30·33 | 30·50 | 30·5 | 41 342 | 41 11·300 | 11·290 | 11·29 | 41 41 38·13 | 38·24 | 38·1 |
| 48 470 | 28 20·347 | 20·299 | 20·31 | 49 3 4·23 | 3·86 | 3·7 | 42 373 | 41 25·405 | 25·372 | 25·37 | 42 34 50·65 | 50·75 | 50·5 |
| 45 379 | 28 33·208 | 33·246 | 33·25 | 46 0 46·16 | 46·19 | 46·0 | 53 388 | 41 35·240 | 35·250 | 35·26 | 53 23 25·35 | 25·42 | 25·3 |
| 51 334 | 28 33·781 | 33·787 | 33·79 | 51 38 29·01 | 28·96 | 28·9 | 41 347 | 41 45·110 | 45·125 | 45·12 | 41 55 23·74 | 23·72 | 23·7 |
| 44 326 | 28 37·800 | 37·801 | 37·80 | 45 4 58·14 | 57·97 | 57·8 | 52 441 | 41 53·045 | 53·019 | 53·01 | 52 44 58·95 | 58·81 | 58·8 |
| 45 383 | 29 15·826 | 15·862 | 15·87 | 45 19 0·32 | 0·34 | 0·2 | 42 375 | 41 55·677 | 55·677 | 55·68 | 42 42 44·29 | 44·19 | 44·0 |
| 44 329 | 29 20·376 | 20·359 | 20·36 | 44 24 51·71 | 51·81 | 51·6 | 54 383 | 42 39·693 | 39·693 | 39·69 | 54 38 37·89 | 37·89 | 37·7 |
| 51 338 | 29 22·545 | 22·498 | 22·51 | 51 39 7·99 | 7·74 | 7·7 | 41 352 | 42 55·473 | 55·490 | 55·49 | 42 12 34·05 | 33·93 | 33·9 |
| 46 389 | 29 30·426 | 30·465 | 30·47 | 46 22 51·56 | 51·83 | 51·8 | 53 395 | 43 10·962 | 10·988 | 10·98 | 53 25 0·94 | 1·02 | 1·0 |
| 46 393 | 29 59·337 | 59·272 | 59·28 | 46 36 11·74 | 11·59 | 11·5 | 43 373 | 43 11·222 | 11·219 | 11·22 | 43 14 15·03 | 15·03 | 14·9 |
| 48 477 | 30 3·137 | 3·173 | 3·17 | 48 41 35·87 | 35·87 | 35·7 | 41 353 | 43 14·308 | 14·308 | 14·31 | 41 29 28·97 | 28·97 | 28·9 |
| 46 397 | 30 18·722 | 18·724 | 18·73 | 46 48 54·05 | 53·98 | 53·8 | 54 388 | 43 57·670 | 57·645 | 57·65 | 54 43 14·61 | 14·46 | 14·4 |
| 47 460 | 30 20·277 | 20·274 | 20·27 | 48 12 43·66 | 43·71 | 43·7 | 53 398 | 44 0·503 | 0·498 | 0·49 | 53 14 45·52 | 45·60 | 45·6 |
| 51 339 | 30 24·375 | 24·340 | 24·34 | 51 14 15·94 | 15·94 | 15·9 | 54 392 | 44 42·206 | 42·206 | 42·20 | 54 54 37·54 | 37·54 | 37·5 |
| 47 462 | 30 32·853 | 32·862 | 32·85 | 47 33 44·57 | 44·71 | 44·7 | 54 393 | 44 53·520 | 53·513 | 53·51 | 54 25 44·76 | 44·75 | 44·7 |
| 52 387 | 30 39·363 | 39·418 | 39·42 | 52 35 43·22 | 43·23 | 43·1 | 42 388 | 45 3·106 | 3·098 | 3·10 | 43 1 46·33 | 46·32 | 46·3 |
| 47 463 | 30 40·306 | 40·326 | 40·33 | 47 48 16·99 | 17·05 | 17·0 | 53 402 | 45 11·655 | 11·654 | 11·65 | 53 22 19·23 | 19·40 | 19·4 |
| 50 314 | 30 44·623 | 44·602 | 44·59 | 50 44 59·43 | 59·46 | 59·5 | 42 390 | 45 21·815 | 21·825 | 21·83 | 42 16 6·85 | 6·86 | 6·8 |
| 49 418 | 30 56·223 | 56·223 | 56·34 | 49 25 43·50 | 43·50 | 43·6 | 40 384 | 45 37·300 | 37·351 | 37·35 | 40 57 32·04 | 32·25 | 32·0 |
| 51 344 | 31 9·435 | 9·478 | 9·48 | 52 7 14·78 | 14·92 | 14·8 | 39 421 | 46 25·447 | 25·489 | 25·48 | 40 3 11·30 | 11·03 | 10·9 |
| 46 404 | 31 12·920 | 12·886 | 12·89 | 46 26 18·98 | 18·83 | 18·7 | 41 362 | 46 43·175 | 43·175 | 43·17 | 41 20 51·61 | 51·61 | 51·6 |
| 45 392 | 31 13·769 | 13·747 | 13·76 | 45 56 57·50 | 57·60 | 57·6 | 40 390 | 46 49·078 | 49·090 | 49·09 | 40 59 27·34 | 27·46 | 27·4 |
| 45 394 | 31 25·135 | 25·127 | 25·13 | 45 26 52·16 | 52·16 | 52·2 | 41 364 | 47 10·131 | 10·151 | 10·15 | 42 2 16·10 | 16·00 | 16·0 |
| 44 335 | 32 5·079 | 5·137 | 5·13 | 44 18 31·02 | 30·96 | 30·9 | 40 394 | 47 17·350 | 17·324 | 17·33 | 40 14 11·06 | 11·04 | 11·1 |
| 44 337 | 32 20·575 | 20·566 | 20·58 | 45 9 17·90 | 17·90 | 17·9 | 53 416 | 48 7·433 | 7·415 | 7·41 | 53 23 58·89 | 58·84 | 58·9 |
| 45 398 | 32 22·325 | 22·317 | 22·31 | 45 55 7·00 | 6·91 | 6·9 | 54 413 | 48 13·173 | 13·189 | 13·17 | 54 14 10·78 | 10·66 | 10·7 |
| 44 341 | 32 30·335 | 30·287 | 30·31 | 44 53 26·42 | 26·42 | 26·2 | 53 419 | 48 25·798 | 25·783 | 25·78 | 53 41 49·19 | 49·36 | 49·2 |
| 52 393 | 32 31·705 | 31·713 | 31·70 | 52 43 47·28 | 47·03 | 46·9 | 40 400 | 48 27·428 | 27·428 | 27·43 | 40 23 51·76 | 51·76 | 51·7 |
| 43 337 | 32 39·731 | 39·733 | 39·73 | 43 38 8·46 | 8·41 | 8·3 | 40 401 | 48 38·927 | 38·942 | 38·95 | 41 8 57·81 | 57·90 | 58·0 |
| 53 355 | 33 5·037 | 5·064 | 5·05 | 53 37 37·13 | 37·21 | 37·1 | 39 434 | 48 52·663 | 52·641 | 52·63 | 40 12 44·00 | 43·81 | 43·8 |
| 43 341 | 33 10·194 | 10·223 | 10·22 | 43 31 33·22 | 33·15 | 33·1 | 41 374 | 50 28·450 | 28·415 | 28·41 | 41 24 8·34 | 8·46 | 8·4 |
| 52 399 | 33 13·497 | 13·473 | 13·47 | 52 24 27·19 | 27·09 | 27·0 | 41 377 | 51 9·584 | 9·567 | 9·56 | 41 16 37·72 | 37·89 | 37·8 |
| 51 357 | 33 13·697 | 13·701 | 13·70 | 51 45 32·69 | 32·63 | 32·9 | 54 424 | 51 12·915 | 12·947 | 12·93 | 54 52 53·23 | 53·25 | 53·3 |
| 43 343 | 33 21·026 | 21·021 | 21·02 | 43 52 39·06 | 39·27 | 39·2 | 40 406 | 51 13·882 | 13·903 | 13·90 | 40 16 19·15 | 19·16 | 19·2 |
| 51 360 | 33 34·418 | 34·396 | 34·41 | 52 8 21·80 | 21·80 | 21·6 | 53 428 | 51 36·409 | 36·410 | 36·40 | 54 7 12·60 | 12·71 | 12·8 |
| 53 363 | 33 51·494 | 51·485 | 51·49 | 53 21 38·76 | 39·16 | 39·3 | 54 429 | 52 10·153 | 10·134 | 10·13 | 55 5 40·28 | 40·39 | 40·4 |
| 51 363 | 34 2·601 | 2·567 | 2·55 | 51 21 27·66 | 27·55 | 27·4 | 40 412 | 52 20·666 | 20·655 | 20·66 | 40 25 34·26 | 34·20 | 34·2 |
| 51 364 | 34 10·346 | 10·349 | 10·34 | 52 1 21·22 | 21·51 | 21·5 | 39 447 | 52 22·200 | 22·214 | 22·22 | 40 3 3·59 | 3·62 | 3·6 |
| 44 346 | 34 45·245 | 45·272 | 45·27 | 44 16 29·25 | 29·24 | 29·3 | 39 448 | 53 36·220 | 36·219 | 36·22 | 40 4 42·65 | 42·76 | 42·7 |
| + 44 347 | 1 34 48·018 | 48·002 | 48·01 | + 44 30 48·61 | 48·51 | 48·4 | + 40 415 | 1 53 39·238 | 39·199 | 39·20 | + 40 51 51·20 | 51·11 | 51·0 |

### TABLE VII.—Mean Places of Reference Stars, 1900·0.

| Number in B.D. | Right Ascension. | | | Declination. | | | Number in B.D. | Right Ascension. | | | Declination. | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Finally Adopted. | Seconds from Loewy. | Seconds provisionally used. | Finally Adopted. | Seconds from Loewy. | Seconds provisionally used. | | Finally Adopted. | Seconds from Loewy. | Seconds provisionally used. | Finally Adopted. | Seconds from Loewy. | Seconds provisionally used. |
| ° | h m s | s | s | ° ′ ″ | ″ | ″ | ° | h m s | s | s | ° ′ ″ | ″ | ″ |
| + 37 452 | 1 54 18·538 | 18·538 | 18·52 | + 38 6 45·04 | 45·04 | 44·9 | + 52 580 | 2 19 3·159 | 3·154 | 3·14 | + 52 55 1·69 | 1·67 | 1·6 |
| 39 450 | 54 28·708 | 28·708 | 28·70 | 39 28 55·49 | 55·43 | 55·2 | 36 478 | 19 9·912 | 9·892 | 9·89 | 36 39 59·87 | 59·82 | 59·7 |
| 38 392 | 54 46·796 | 46·763 | 46·78 | 39 8 29·82 | 29·69 | 29·7 | 35 470 | 19 20·760 | 20·770 | 20·77 | 35 31 8·59 | 8·51 | 8·5 |
| 53 437 | 55 22·633 | 22·662 | 22·66 | 53 32 1·30 | 1·07 | 1·0 | 34 432 | 19 25·339 | 25·322 | 25·32 | 34 35 21·26 | 21·55 | 21·5 |
| 53 439 | 55 38·327 | 38·327 | 38·33 | 54 0 15·32 | 15·32 | 15·3 | 53 525 | 19 30·313 | 30·270 | 30·26 | 53 40 26·90 | 27·13 | 27·0 |
| 39 454 | 55 45·134 | 45·120 | 45·12 | 40 11 2·75 | 2·70 | 2·6 | 36 482 | 19 44·326 | 44·326 | 44·32 | 36 33 40·08 | 40·08 | 40·1 |
| 54 444 | 56 26·842 | 26·833 | 26·83 | 54 45 0·16 | 0·21 | 0·1 | 34 435 | 20 8·276 | 8·276 | 8·27 | 34 24 7·25 | 7·40 | 7·3 |
| 37 465 | 56 38·117 | 38·117 | 38·11 | 38 3 41·94 | 41·94 | 41·9 | 52 581 | 20 30·538 | 30·537 | 30·52 | 53 2 59·16 | 59·14 | 59·0 |
| 53 440 | 56 44·971 | 44·963 | 44·97 | 54 12 43·41 | 43·47 | 43·4 | 34 437 | 20 45·260 | 45·208 | 45·21 | 35 9 50·33 | 50·35 | 50·4 |
| 55 484 | 57 4·030 | 4·032 | 4·01 | 55 17 12·68 | 12·79 | 12·7 | 54 554 | 21 46·728 | 46·728 | 46·72 | 54 31 35·73 | 35·73 | 35·8 |
| 37 468 | 57 6·200 | 6·238 | 6·22 | 38 9 53·36 | 53·12 | 53·1 | 52 585 | 21 54·771 | 54·803 | 54·80 | 53 5 37·24 | 37·15 | 37·0 |
| 54 448 | 57 6·288 | 6·300 | 6·30 | 54 38 21·00 | 20·81 | 20·9 | 35 477 | 22 1·259 | 1·264 | 1·27 | 35 29 1·82 | 1·84 | 1·8 |
| 39 457 | 57 45·175 | 45·211 | 45·21 | 39 34 30·24 | 30·20 | 30·3 | 34 442 | 22 26·925 | 26·922 | 26·92 | 34 51 0·70 | 0·52 | 0·5 |
| 54 452 | 57 57·916 | 57·914 | 57·90 | 54 16 33·99 | 33·88 | 33·9 | 35 480 | 22 51·135 | 51·166 | 51·17 | 35 13 12·34 | 12·19 | 12·2 |
| 54 453 | 58 17·969 | 17·939 | 17·94 | 55 8 36·07 | 36·01 | 36·0 | 52 587 | 22 52·559 | 52·550 | 52·54 | 52 36 52·85 | 52·93 | 52·8 |
| 38 402 | 58 43·352 | 43·340 | 43·34 | 38 57 18·23 | 18·31 | 18·1 | 53 532 | 23 5·278 | 5·277 | 5·27 | 53 24 20·31 | 20·49 | 20·5 |
| 54 457 | 59 8·351 | 8·362 | 8·35 | 54 26 56·26 | 56·33 | 56·3 | 35 490 | 24 41·795 | 41·795 | 41·80 | 35 40 21·35 | 21·26 | 21·3 |
| 39 464 | 1 59 43·265 | 43·250 | 43·25 | 39 16 52·44 | 52·65 | 52·7 | 33 447 | 24 57·998 | 58·017 | 58·02 | 33 54 55·14 | 55·08 | 55·1 |
| 53 451 | 2 0 3·004 | 2·992 | 2·99 | 53 49 48·58 | 48·68 | 48·7 | 52 592 | 25 3·161 | 3·161 | 3·16 | 52 23 27·87 | 27·76 | 27·7 |
| 38 408 | 0 22·597 | 22·597 | 22·60 | 38 25 18·34 | 18·34 | 18·3 | 34 448 | 25 4·160 | 4·156 | 4·16 | 34 29 14·62 | 14·80 | 14·8 |
| 39 468 | 0 30·270 | 30·270 | 30·27 | 40 7 15·30 | 15·30 | 15·3 | 35 494 | 25 5·008 | 5·049 | 5·05 | 35 18 44·78 | 44·86 | 44·8 |
| 53 453 | 1 36·474 | 36·463 | 36·45 | 54 7 38·26 | 38·45 | 38·4 | 34 449 | 25 6·738 | 6·752 | 6·75 | 34 57 20·50 | 20·18 | 20·6 |
| 37 486 | 2 27·103 | 27·041 | 27·04 | 37 23 5·43 | 5·28 | 5·2 | 53 539 | 25 29·962 | 29·979 | 29·98 | 53 52 0·13 | 59·94 | 59·8 |
| 54 469 | 3 9·162 | 9·170 | 9·16 | 55 0 48·72 | 48·54 | 48·4 | 53 540 | 25 49·254 | 49·260 | 49·24 | 53 32 5·54 | 5·66 | 5·6 |
| 53 459 | 3 20·871 | 20·888 | 20·88 | 53 51 27·56 | 27·41 | 27·5 | 34 454 | 26 3·366 | 3·342 | 3·34 | 34 14 9·38 | 9·64 | 9·7 |
| 54 470 | 3 27·824 | 27·839 | 27·83 | 54 49 6·72 | 6·63 | 6·4 | 34 457 | 26 29·234 | 29·237 | 29·24 | 34 50 17·94 | 17·83 | 17·8 |
| 36 426 | 4 37·582 | 37·582 | 37·58 | 37 13 44·83 | 44·83 | 44·8 | 33 454 | 26 50·267 | 50·253 | 50·25 | 34 6 3·82 | 3·82 | 3·8 |
| 38 423 | 4 41·633 | 41·633 | 41·63 | 38 13 52·56 | 52·56 | 52·5 | 52 595 | 27 16·863 | 16·867 | 16·86 | 52 23 26·02 | 26·06 | 26·0 |
| 53 470 | 4 59·611 | 59·612 | 59·60 | 54 4 46·88 | 47·06 | 47·2 | 52 597 | 27 22·976 | 23·012 | 23·00 | 52 57 54·13 | 54·08 | 54·1 |
| 36 427 | 5 25·360 | 25·327 | 25·33 | 36 52 51·00 | 51·16 | 51·2 | 34 462 | 28 12·913 | 12·893 | 12·89 | 34 42 40·92 | 41·12 | 41·2 |
| 54 483 | 6 11·449 | 11·453 | 11·44 | 54 38 27·82 | 27·77 | 27·7 | 50 587 | 28 23·843 | 23·843 | 23·84 | 50 45 2·40 | 2·40 | 2·4 |
| 53 474 | 6 26·079 | 26·084 | 26·07 | 53 44 57·14 | 57·28 | 57·3 | 53 546 | 28 31·869 | 31·862 | 31·85 | 53 14 57·74 | 57·55 | 57·6 |
| 36 435 | 6 45·230 | 45·244 | 45·24 | 36 54 1·28 | 1·32 | 1·3 | 53 547 | 28 34·658 | 34·658 | 34·66 | 53 52 42·61 | 42·61 | 42·6 |
| 54 494 | 7 42·044 | 42·064 | 42·06 | 54 50 56·87 | 56·84 | 56·8 | 51 598 | 29 15·639 | 15·639 | 15·62 | 52 2 59·35 | 59·35 | 59·3 |
| 37 505 | 7 52·478 | 52·477 | 52·48 | 37 56 20·67 | 20·58 | 20·6 | 34 469 | 29 42·585 | 42·577 | 42·58 | 34 15 4·80 | 4·88 | 5·0 |
| 36 440 | 7 53·567 | 53·574 | 53·58 | 37 8 58·84 | 58·90 | 58·9 | 34 471 | 29 45·993 | 45·980 | 45·98 | 34 17 17·70 | 17·75 | 17·7 |
| 37 506 | 8 4·502 | 4·502 | 4·51 | 38 10 15·60 | 15·60 | 15·6 | 51 599 | 29 55·836 | 55·797 | 55·79 | 51 31 28·80 | 28·66 | 28·6 |
| 53 486 | 8 4·907 | 4·907 | 4·91 | 54 3 51·52 | 51·52 | 51·3 | 52 602 | 30 52·497 | 52·491 | 52·48 | 52 22 39·59 | 39·75 | 39·6 |
| 54 497 | 8 17·155 | 17·155 | 17·16 | 54 37 14·15 | 14·15 | 14·1 | 50 589 | 31 23·095 | 23·095 | 23·08 | 50 26 0·99 | 0·99 | 0·8 |
| 37 512 | 9 25·439 | 25·439 | 25·44 | 37 55 2·23 | 2·23 | 2·3 | 51 604 | 31 37·424 | 37·434 | 37·44 | 51 38 37·71 | 37·67 | 37·5 |
| 36 446 | 9 52·887 | 52·898 | 52·90 | 36 18 19·31 | 19·40 | 19·4 | 50 601 | 33 42·672 | 42·639 | 42·64 | 51 11 33·59 | 33·96 | 34·0 |
| 36 450 | 10 27·275 | 27·287 | 27·29 | 36 40 59·72 | 59·70 | 59·7 | 32 483 | 33 45·701 | 45·701 | 45·70 | 33 3 52·73 | 52·73 | 52·7 |
| 37 514 | 10 54·321 | 54·321 | 54·33 | 37 40 56·72 | 56·72 | 56·7 | 33 481 | 33 46·984 | 46·984 | 46·99 | 33 31 5·90 | 5·90 | 5·9 |
| 36 453 | 11 8·326 | 8·336 | 8·34 | 37 1 11·64 | 11·24 | 11·2 | 32 484 | 33 49·616 | 49·616 | 49·62 | 32 23 1·38 | 1·38 | 1·4 |
| 37 516 | 11 14·713 | 14·726 | 14·73 | 37 22 8·42 | 8·48 | 8·5 | 49 741 | 34 18·263 | 18·296 | 18·30 | 49 34 56·04 | 56·10 | 56·1 |
| 53 497 | 11 34·873 | 34·851 | 34·85 | 53 48 59·92 | 59·99 | 60·0 | 49 743 | 34 24·984 | 24·984 | 24·98 | 49 41 21·08 | 21·08 | 21·1 |
| 37 518 | 11 49·131 | 49·131 | 49·14 | 37 37 28·12 | 28·12 | 28·1 | 51 616 | 35 21·688 | 21·670 | 21·67 | 52 0 20·98 | 21·04 | 21·1 |
| 52 563 | 12 6·031 | 6·056 | 6·04 | 53 6 51·34 | 51·24 | 51·1 | 51 618 | 35 38·818 | 38·846 | 38·84 | 51 28 31·17 | 31·18 | 31·2 |
| 53 501 | 12 6·457 | 6·460 | 6·45 | 53 38 0·85 | 0·72 | 0·6 | 52 617 | 36 19·710 | 19·723 | 19·72 | 52 19 47·69 | 47·73 | 47·7 |
| 36 458 | 12 32·947 | 32·933 | 32·93 | 36 36 16·85 | 17·00 | 17·0 | 33 493 | 36 31·065 | 31·082 | 31·09 | 33 20 25·33 | 25·28 | 25·3 |
| 53 507 | 14 20·117 | 20·076 | 20·08 | 54 3 3·89 | 4·08 | 4·0 | 51 620 | 36 38·114 | 38·155 | 38·16 | 51 59 17·00 | 16·97 | 17·1 |
| 36 464 | 14 57·592 | 57·559 | 57·56 | 36 36 45·08 | 45·15 | 45·2 | 32 490 | 36 38·565 | 38·526 | 38·53 | 32 28 32·40 | 32·37 | 32·4 |
| 54 530 | 15 44·089 | 44·149 | 44·14 | 54 37 21·67 | 21·79 | 21·9 | 50 613 | 36 40·154 | 40·172 | 40·18 | 51 6 29·22 | 29·06 | 29·1 |
| 36 470 | 17 13·107 | 13·120 | 13·12 | 37 6 16·13 | 16·20 | 16·2 | 49 752 | 36 45·940 | 45·912 | 45·91 | 49 57 34·09 | 33·93 | 33·9 |
| 53 519 | 17 20·148 | 20·147 | 20·15 | 53 44 9·98 | 9·81 | 9·8 | 49 753 | 36 47·832 | 47·836 | 47·84 | 50 10 19·02 | 19·14 | 19·1 |
| 53 521 | 17 28·877 | 28·856 | 28·85 | 53 19 11·71 | 11·54 | 11·5 | 33 494 | 37 16·736 | 16·736 | 16·74 | 33 44 52·60 | 52·60 | 52·6 |
| 52 576 | 17 35·334 | 35·344 | 35·33 | 52 59 37·08 | 36·98 | 36·9 | 50 617 | 37 24·166 | 24·189 | 24·19 | 50 47 57·64 | 57·37 | 57·4 |
| + 36 473 | 2 17 36·757 | 36·751 | 36·76 | + 36 38 51·71 | 51·37 | 51·3 | + 50 620 | 2 38 4·864 | 4·863 | 4·86 | + 50 18 13·23 | 13·13 | 13·1 |

## TABLE VII.—Mean Places of Reference Stars, 1900·0.

| Number in B.D. | Right Ascension. | | | Declination. | | | Number in B.D. | Right Ascension. | | | Declination. | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Finally Adopted. | Seconds from Loewy. | Seconds provisionally used. | Finally Adopted. | Seconds from Loewy. | Seconds provisionally used. | | Finally Adopted. | Seconds from Loewy. | Seconds provisionally used. | Finally Adopted. | Seconds from Loewy. | Seconds provisionally used. |
| ° | h m s | s | s | ° ′ ″ | ″ | ″ | ° | h m s | s | s | ° ′ ″ | ″ | ″ |
| + 50 623 | 2 38 32·900 | 32·875 | 32·88 | + 51 9 45·50 | 45·30 | 45·4 | + 31 524 | 2 55 10·502 | 10·502 | 10·50 | + 31 33 29·91 | 29·91 | 29·9 |
| 48 750 | 38 56·239 | 56·239 | 56·25 | 48 32 8·30 | 8·30 | 8·4 | 28 507 | 3 7 34·999 | 34·999 | 35·00 | 28 51 27·58 | 27·58 | 27·6 |
| 47 692 | 38 58·505 | 58·531 | 58·54 | 47 43 16·10 | 15·91 | 15·9 | 28 511 | 11 1·893 | 1·893 | 1·90 | 28 23 24·94 | 24·94 | 24·9 |
| 32 498 | 39 4·276 | 4·304 | 4·31 | 32 19 51·13 | 50·98 | 51·0 | 27 488 | 11 2·104 | 2·104 | 2·12 | 28 6 59·76 | 59·86 | 59·8 |
| 46 628 | 39 23·006 | 22·997 | 23·00 | 46 48 42·56 | 42·49 | 42·5 | 28 514 | 12 24·813 | 24·847 | 24·85 | 28 20 50·04 | 49·90 | 50·0 |
| 50 627 | 39 29·413 | 29·418 | 29·41 | 50 11 44·53 | 44·40 | 44·4 | 27 492 | 13 38·040 | 38·040 | 38·04 | 27 10 42·72 | 42·72 | 42·8 |
| 48 752 | 39 35·570 | 35·558 | 35·56 | 48 56 22·35 | 22·41 | 22·4 | 28 516 | 14 17·212 | 17·212 | 17·21 | 28 41 9·48 | 9·48 | 9·5 |
| 44 573 | 39 44·370 | 44·371 | 44·37 | 45 1 45·37 | 45·24 | 45·2 | 28 517 | 14 36·993 | 36·993 | 37·00 | 28 27 57·62 | 57·62 | 57·6 |
| 31 477 | 40 19·082 | 19·066 | 19·08 | 31 34 27·11 | 27·36 | 27·4 | 27 500 | 16 11·570 | 11·570 | 11·58 | 27 14 54·75 | 54·65 | 54·7 |
| 45 660 | 40 33·901 | 33·929 | 33·93 | 45 29 47·21 | 46·85 | 46·8 | 27 501 | 16 58·055 | 58·055 | 58·05 | 27 19 44·53 | 44·53 | 44·6 |
| 44 577 | 41 0·682 | 0·691 | 0·69 | 44 50 44·82 | 44·60 | 44·6 | 26 550 | 17 32·466 | 32·466 | 32·47 | 27 2 43·72 | 43·72 | 43·7 |
| 49 773 | 41 5·094 | 5·108 | 5·09 | 49 39 34·03 | 34·25 | 34·3 | 28 526 | 18 45·558 | 45·558 | 45·56 | 28 17 58·59 | 58·59 | 58·7 |
| 47 698 | 41 20·222 | 20·232 | 20·23 | 47 46 43·43 | 43·21 | 43·2 | 28 532 | 20 31·344 | 31·344 | 31·35 | 28 21 59·90 | 59·90 | 0·0 |
| 48 760 | 41 25·424 | 25·424 | 25·43 | 48 48 6·33 | 6·33 | 6·4 | 26 572 | 28 57·164 | 57·164 | 57·17 | 26 16 22·75 | 22·75 | 22·7 |
| 33 512 | 41 27·405 | 27·409 | 27·41 | 33 13 1·87 | 1·66 | 1·7 | 26 574 | 29 19·189 | 19·189 | 19·20 | 26 30 59·13 | 59·13 | 59·2 |
| 50 636 | 41 35·766 | 35·766 | 35·77 | 50 28 43·55 | 43·55 | 43·6 | 26 579 | 30 6·048 | 6·048 | 6·05 | 27 0 40·82 | 40·82 | 40·9 |
| 47 700 | 41 43·819 | 43·820 | 43·82 | 48 2 10·02 | 10·02 | 10·0 | 25 580 | 31 9·976 | 9·976 | 9·98 | 25 40 3·52 | 3·52 | 3·5 |
| 46 638 | 41 50·608 | 50·622 | 50·63 | 46 32 46·90 | 46·70 | 46·7 | 25 584 | 33 29·118 | 29·118 | 29·12 | 25 48 4·57 | 4·57 | 4·6 |
| 47 702 | 42 19·258 | 19·256 | 19·25 | 47 12 30·65 | 30·72 | 30·8 | 26 590 | 33 29·697 | 29·697 | 29·70 | 26 53 46·97 | 46·97 | 47·0 |
| 46 641 | 42 28·268 | 28·245 | 28·24 | 46 48 4·42 | 4·62 | 4·6 | 26 596 | 34 11·991 | 11·991 | 11·99 | 26 33 45·80 | 45·80 | 45·7 |
| 48 764 | 42 43·279 | 43·279 | 43·28 | 48 27 49·43 | 49·43 | 49·4 | 26 601 | 36 27·693 | 27·693 | 27·69 | 26 15 11·13 | 11·13 | 11·2 |
| 45 662 | 42 54·940 | 54·964 | 54·97 | 45 59 10·75 | 10·74 | 10·8 | 25 593 | 37 7·252 | 7·252 | 7·25 | 25 21 45·39 | 45·39 | 45·4 |
| 49 782 | 42 58·851 | 58·881 | 58·89 | 49 35 54·15 | 54·29 | 54·4 | 25 598 | 37 38·662 | 38·662 | 38·66 | 25 48 28·96 | 28·96 | 29·0 |
| 32 508 | 43 1·150 | 1·136 | 1·13 | 32 25 41·08 | 41·13 | 41·2 | 25 597 | 37 38·947 | 38·947 | 38·95 | 25 27 10·20 | 10·20 | 10·3 |
| 32 507 | 43 1·163 | 1·168 | 1·16 | 32 45 32·45 | 33·02 | 32·6 | 25 599 | 37 44·819 | 44·819 | 44·83 | 26 3 48·43 | 48·43 | 48·5 |
| 44 582 | 43 4·747 | 4·756 | 4·76 | 44 59 17·65 | 17·73 | 17·8 | 24 568 | 41 47·084 | 47·084 | 47·09 | 25 4 38·07 | 38·07 | 38·0 |
| 31 483 | 43 9·579 | 9·579 | 9·58 | 31 41 46·52 | 46·41 | 46·5 | 24 571 | 42 8·014 | 8·014 | 8·01 | 24 40 48·16 | 48·16 | 48·2 |
| 47 709 | 43 21·239 | 21·264 | 21·24 | 47 43 51·02 | 50·87 | 50·9 | 25 620 | 42 41·173 | 41·173 | 41·18 | 25 29 34·59 | 34·59 | 34·6 |
| 46 644 | 43 34·585 | 34·643 | 34·64 | 46 59 53·02 | 53·11 | 53·0 | 23 561 | 43 24·106 | 24·106 | 24·10 | 24 4 32·45 | 32·45 | 32·5 |
| 47 711 | 43 53·262 | 53·239 | 53·24 | 47 52 33·93 | 33·89 | 34·0 | 25 624 | 44 18·138 | 18·138 | 18·14 | 25 16 40·13 | 40·13 | 40·1 |
| 45 665 | 44 0·402 | 0·425 | 0·43 | 45 25 21·18 | 21·13 | 21·2 | 24 578 | 44 29·971 | 29·971 | 29·97 | 24 11 30·48 | 30·48 | 30·5 |
| 43 586 | 44 6·799 | 6·799 | 6·80 | 43 56 39·12 | 39·12 | 39·1 | 24 583 | 45 25·712 | 25·712 | 25·71 | 24 51 39·26 | 39·26 | 39·2 |
| 45 667 | 44 9·492 | 9·497 | 9·50 | 45 39 30·58 | 30·67 | 30·6 | 24 587 | 46 12·515 | 12·515 | 12·51 | 24 52 0·50 | 0·50 | 0·6 |
| 48 770 | 44 19·678 | 19·670 | 19·67 | 48 56 10·26 | 9·90 | 9·9 | 24 589 | 46 54·530 | 54·536 | 54·53 | 24 25 3·37 | 3·37 | 3·3 |
| 31 490 | 44 23·290 | 23·260 | 23·26 | 31 33 33·97 | 33·58 | 33·6 | 25 637 | 47 6·659 | 6·659 | 6·66 | 25 14 12·43 | 12·43 | 12·4 |
| 45 669 | 44 55·646 | 55·645 | 55·64 | 45 34 26·47 | 26·26 | 26·3 | 23 584 | 49 4·542 | 4·542 | 4·53 | 23 39 46·12 | 46·12 | 46·1 |
| 31 493 | 44 56·032 | 56·051 | 56·05 | 31 57 1·49 | 1·51 | 1·5 | 24 595 | 49 7·579 | 7·579 | 7·58 | 24 48 40·69 | 40·69 | 40·7 |
| 46 648 | 44 59·892 | 59·853 | 59·87 | 46 25 45·86 | 46·11 | 46·2 | 23 586 | 49 50·835 | 50·835 | 50·84 | 23 32 9·43 | 9·43 | 9·5 |
| 44 591 | 45 6·758 | 6·746 | 6·74 | 44 38 47·57 | 47·63 | 47·6 | 23 589 | 50 40·784 | 40·784 | 40·79 | 23 18 14·63 | 14·63 | 14·6 |
| 44 593 | 45 16·874 | 16·841 | 16·84 | 44 28 53·94 | 54·27 | 54·3 | 24 598 | 51 11·018 | 11·018 | 11·02 | 24 59 31·49 | 31·49 | 31·5 |
| 48 777 | 45 20·158 | 20·158 | 20·15 | 48 28 14·14 | 14·14 | 14·1 | 24 599 | 51 27·572 | 27·572 | 27·57 | 24 10 19·73 | 19·73 | 19·7 |
| 47 720 | 45 37·332 | 37·346 | 37·34 | 47 30 3·61 | 3·56 | 3·5 | 23 594 | 52 22·717 | 22·717 | 22·72 | 23 47 39·35 | 39·35 | 39·3 |
| 47 721 | 45 50·914 | 50·914 | 50·91 | 48 0 31·35 | 31·48 | 31·5 | 23 600 | 53 6·408 | 6·408 | 6·41 | 23 20 29·40 | 29·40 | 29·2 |
| 32 517 | 45 56·830 | 56·846 | 56·84 | 32 19 48·03 | 47·71 | 47·8 | 24 602 | 53 13·131 | 13·131 | 13·13 | 24 55 47·22 | 47·22 | 47·2 |
| 46 652 | 47 16·679 | 16·622 | 16·62 | 46 45 6·57 | 6·79 | 6·8 | 24 605 | 53 54·505 | 54·505 | 54·51 | 24 24 42·44 | 42·44 | 42·5 |
| 31 497 | 47 21·930 | 21·924 | 21·93 | 31 14 7·36 | 7·34 | 7·3 | 22 613 | 54 11·409 | 11·409 | 11·41 | 23 6 55·88 | 55·88 | 55·9 |
| 32 522 | 47 34·802 | 34·792 | 34·79 | 32 30 33·82 | 33·61 | 33·7 | 22 617(1) | 55 0·386 | 0·386 | 0·38 | 22 55 11·28 | 11·28 | 11·3 |
| 31 500 | 48 4·381 | 4·410 | 4·41 | 31 55 43·37 | 43·33 | 43·3 | 22 617(2) | 55 0·848 | 0·848 | 0·84 | 22 55 6·63 | 6·63 | 6·7 |
| 45 679 | 49 15·008 | 14·982 | 14·98 | 45 26 1·45 | 1·16 | 1·2 | 23 606 | 57 48·909 | 48·909 | 48·91 | 24 7 32·23 | 32·23 | 32·1 |
| 44 598 | 49 28·870 | 28·870 | 28·86 | 44 34 38·06 | 38·06 | 38·0 | 23 609 | 58 22·755 | 22·755 | 22·76 | 23 49 50·79 | 50·79 | 50·8 |
| 30 464 | 49 39·381 | 39·352 | 39·35 | 30 38 14·37 | 14·31 | 14·3 | 23 611 | 58 52·397 | 52·397 | 52·39 | 23 14 5·14 | 5·14 | 5·2 |
| 30 465 | 49 50·629 | 50·618 | 50·62 | 31 10 29·94 | 29·87 | 29·9 | 23 613 | 59 17·119 | 17·119 | 17·12 | 23 31 26·03 | 26·03 | 26·1 |
| 30 466 | 50 30·126 | 30·126 | 30·13 | 30 28 33·81 | 33·81 | 33·8 | 22 629 | 3 59 27·220 | 27·227 | 27·22 | 22 53 44·61 | 44·61 | 44·6 |
| 30 469 | 51 58·204 | 58·204 | 58·20 | 31 6 53·09 | 53·09 | 53·1 | 23 617 | 4 0 39·619 | 39·619 | 39·62 | 23 14 51·48 | 51·48 | 51·5 |
| 31 511 | 52 5·700 | 5·700 | 5·70 | 31 36 55·17 | 55·17 | 55·1 | 23 624 | 2 52·458 | 52·458 | 52·46 | 23 36 19·68 | 19·68 | 19·7 |
| 30 474 | 53 52·659 | 52·659 | 52·66 | 30 12 27·65 | 27·65 | 27·7 | 22 637(1) | 2 56·330 | 56·330 | 56·33 | 22 49 54·48 | 54·48 | 54·5 |
| 30 477 | 54 13·528 | 13·528 | 13·53 | 30 43 39·65 | 39·65 | 39·7 | 22 637(2) | 2 56·390 | 56·390 | 56·39 | 22 49 59·90 | 59·90 | 59·9 |
| + 29 508 | 2 54 24·978 | 24·978 | 24·98 | + 30 10 18·16 | 18·16 | 18·1 | + 23 632 | 4 4 17·500 | 17·500 | 17·50 | + 23 43 6·00 | 6·00 | 6·0 |

## TABLE VII.—Mean Places of Reference Stars, 1900·0.

| Number in B.D. | Right Ascension. | | | Declination. | | | Number in B.D. | Right Ascension. | | | Declination. | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Finally Adopted. | Seconds from Loewy. | Seconds provi-sionally used. | Finally Adopted. | Seconds from Loewy. | Seconds provi-sionally used. | | Finally Adopted. | Seconds from Loewy. | Seconds provi-sionally used. | Finally Adopted. | Seconds from Loewy. | Seconds provi-sionally used. |
| ° | h m s | s | s | ° ′ ″ | ″ | ″ | ° | h m s | s | s | ° ′ ″ | ″ | ″ |
| + 23 642 | 4 6 26·486 | 26·486 | 26·49 | + 23 19 1·03 | 1·03 | 1·1 | + 19 755 | 4 35 42·523 | 42·516 | 42·51 | + 20 4 13·47 | 13·64 | 13·6 |
| 23 645 | 6 48·042 | 48·042 | 48·04 | 23 15 48·89 | 48·89 | 48·9 | 19 759 | 35 51·281 | 51·298 | 51·30 | 19 53 44·02 | 43·92 | 43·9 |
| 22 649 | 6 55·403 | 55·403 | 55·41 | 22 9 23·04 | 23·04 | 23·0 | 18 684 | 37 1·381 | 1·381 | 1·38 | 18 31 56·51 | 56·51 | 56·5 |
| 21 635 | 17 27·169 | 27·204 | 27·20 | 21 8 44·47 | 44·33 | 44·4 | 19 774 | 39 43·439 | 43·439 | 43·44 | 19 8 38·03 | 38·03 | 38·1 |
| 20 751 | 17 38·766 | 38·739 | 38·74 | 20 44 56·20 | 46·55 | 56·5 | 18 717 | 40 15·073 | 15·073 | 15·07 | 18 37 3·41 | 3·41 | 3·4 |
| 21 639 | 18 6·012 | 6·032 | 6·03 | 21 18 28·28 | 28·29 | 28·3 | 18 719 | 40 26·429 | 26·429 | 26·42 | 18 33 13·79 | 13·79 | 13·9 |
| 21 641 | 18 18·337 | 18·311 | 18·31 | 21 30 17·81 | 17·78 | 17·9 | 19 777 | 40 44·156 | 44·156 | 44·16 | 19 18 43·94 | 43·94 | 44·0 |
| 20 754 | 19 53·546 | 53·556 | 53·55 | 20 54 30·34 | 30·21 | 30·2 | 18 725 | 41 4·006 | 4·006 | 4·00 | 18 53 56·31 | 56·31 | 56·2 |
| 21 644 | 20 22·804 | 22·814 | 22·81 | 21 14 36·76 | 36·82 | 36·8 | 18 727 | 41 17·825 | 17·825 | 17·83 | 18 18 27·67 | 27·67 | 27·7 |
| 20 756 | 21 13·470 | 13·491 | 13·49 | 20 45 58·17 | 58·20 | 58·2 | 19 782 | 41 51·383 | 51·383 | 51·38 | 19 8 22·65 | 22·65 | 22·6 |
| 21 647 | 22 4·610 | 4·568 | 4·57 | 21 23 48·86 | 49·06 | 49·1 | 18 734 | 42 50·804 | 50·804 | 50·80 | 18 32 33·85 | 33·85 | 33·9 |
| 20 760 | 22 44·304 | 44·323 | 44·32 | 20 36 35·65 | 35·53 | 35·5 | 18 738 | 44 27·341 | 27·341 | 27·34 | 19 1 10·87 | 10·87 | 10·9 |
| 20 761 | 22 48·896 | 48·882 | 48·89 | 20 27 18·32 | 18·20 | 18·2 | 18 743 | 45 31·411 | 31·411 | 31·41 | 18 40 10·91 | 10·91 | 11·0 |
| 19 731 | 24 25·957 | 25·938 | 25·94 | 19 37 20·96 | 21·00 | 21·0 | 17 814 | 50 41·325 | 41·325 | 41·32 | 17 50 43·55 | 43·55 | 43·6 |
| 19 733 | 25 22·813 | 22·815 | 22·82 | 19 55 2·53 | 2·66 | 2·6 | 16 671 | 51 1·871 | 1·871 | 1·87 | 16 34 36·18 | 36·18 | 36·2 |
| 20 772 | 25 45·585 | 45·610 | 45·61 | 20 34 3·71 | 3·88 | 3·8 | 16 672 | 51 35·768 | 35·729 | 35·73 | 16 59 48·57 | 48·39 | 48·4 |
| 21 657 | 26 12·019 | 11·991 | 11·99 | 21 25 2·92 | 3·14 | 3·1 | 16 679 | 54 6·943 | 6·942 | 6·94 | 16 40 41·35 | 41·35 | 41·3 |
| 19 736 | 27 31·733 | 31·765 | 31·75 | 19 36 7·26 | 7·14 | 7·1 | 16 685 | 56 8·495 | 8·526 | 8·53 | 16 41 13·19 | 13·05 | 13·1 |
| 20 778 | 28 51·805 | 51·805 | 51·80 | 20 53 43·59 | 43·52 | 43·5 | 16 688 | 4 58 17·836 | 17·836 | 17·84 | 16 59 5·79 | 5·79 | 5·8 |
| 19 740 | 29 47·965 | 47·943 | 47·94 | 19 45 47·72 | 47·94 | 47·9 | 16 742 | 5 11 20·026 | 20·026 | 20·02 | 16 14 30·58 | 30·62 | 30·6 |
| 19 742 | 29 50·804 | 50·789 | 50·78 | 19 40 31·44 | 31·32 | 31·3 | 15 779 | 11 25·004 | 25·004 | 25·00 | 15 9 14·00 | 14·00 | 14·0 |
| 19 744 | 30 43·106 | 43·105 | 43·10 | 19 33 18·52 | 18·45 | 18·5 | 15 789 | 14 18·567 | 18·568 | 18·57 | 16 1 7·25 | 7·15 | 7·2 |
| 19 745 | 30 51·329 | 51·329 | 51·32 | 19 17 21·87 | 21·87 | 21·9 | 14 881 | 14 53·281 | 53·281 | 53·28 | 14 57 26·80 | 26·80 | 26·8 |
| 20 785 | 32 21·858 | 21·828 | 21·83 | 20 29 1·82 | 1·89 | 1·9 | 15 790 | 14 59·319 | 59·319 | 59·32 | 15 32 6·83 | 6·97 | 6·9 |
| + 18 666 | 4 32 41·751 | 41·751 | 41·75 | + 18 31 59·91 | 59·91 | 59·9 | + 15 795 | 5 15 54·851 | 54·851 | 54·85 | + 15 44 55·43 | 55·57 | 55·5 |

## TABLE VIII.—Mean Places of Comparison Stars Deduced from Photographs.

| No. | Plate No. and Date. | R.A. 1900·0. | | | Dec. 1900·0. | | |
|---|---|---|---|---|---|---|---|
| | 1900. | h | m | s | ° | ′ | ″ |
| 1 | 5279 Dec. 7 | 1 | 24 | 4·481 | +48 | 3 | 1·14 |
| | 5280 ,, | | | 4·480 | | | 1·24 |
| | 5283 ,, | | | 4·489 | | | 0·96 |
| | 5285 Dec. 9 | | | 4·485 | | | 1·47 |
| | 5286 ,, | | | 4·492 | | | 1·44 |
| | | 1 | 24 | 4·485 | +48 | 3 | 1·25 |
| 2 | 5276 Dec. 6 | 1 | 24 | 48·388 | +48 | 46 | 25·09 |
| | 5277 ,, | | | 48·393 | | | 25·29 |
| | 5278 ,, | | | 48·399 | | | 24·72 |
| | 5279 Dec. 7 | | | 48·393 | | | 25·17 |
| | 5280 ,, | | | 48·399 | | | 25·01 |
| | 5283 ,, | | | 48·440 | | | 24·92 |
| | | 1 | 24 | 48·402 | +48 | 46 | 25·03 |
| 3 | 5276 Dec. 6 | 1 | 24 | 53·554 | +47 | 54 | 12·85 |
| | 5277 ,, | | | 53·587 | | | 12·49 |
| | 5278 ,, | | | 53·568 | | | 12·79 |
| | 5279 Dec. 7 | | | 53·549 | | | 12·56 |
| | 5280 ,, | | | 53·549 | | | 12·82 |
| | 5283 ,, | | | 53·560 | | | 12·77 |
| | 5285 Dec. 9 | | | 53·550 | | | 13·07 |
| | 5286 ,, | | | 53·553 | | | 12·98 |
| | | 1 | 24 | 53·559 | +47 | 54 | 12·79 |
| 4 | 5287 Dec. 10 | 1 | 25 | 9·786 | +47 | 2 | 42·93 |
| 5 | 5276 Dec. 6 | 1 | 25 | 26·357 | +48 | 16 | 17·69 |
| | 5277 ,, | | | 26·353 | | | 17·72 |
| | 5278 ,, | | | 26·340 | | | 17·71 |
| | | 1 | 25 | 26·350 | +48 | 16 | 17·71 |
| 6 | 5285 Dec. 9 | 1 | 26 | 7·357 | +47 | 12 | 36·00 |
| | 5286 ,, | | | 7·366 | | | 36·03 |
| | 5287 Dec. 10 | | | 7·356 | | | 36·07 |
| | | 1 | 26 | 7·359 | +47 | 12 | 36·03 |
| 7 | 5276 Dec. 6 | 1 | 26 | 30·209 | +48 | 9 | 24·93 |
| | 5277 ,, | | | 30·244 | | | 24·64 |
| | 5278 ,, | | | 30·227 | | | 24·81 |
| | 5279 Dec. 7 | | | 30·219 | | | 24·43 |
| | 5280 ,, | | | 30·223 | | | 24·77 |
| | 5283 ,, | | | 30·225 | | | 24·83 |
| | | 1 | 26 | 30·225 | +48 | 9 | 24·74 |
| 8 | 5276 Dec. 6 | 1 | 26 | 40·642 | +48 | 59 | 53·03 |
| | 5277 ,, | | | 40·664 | | | 52·67 |
| | 5278 ,, | | | 40·656 | | | 53·05 |
| | | 1 | 26 | 40·654 | +48 | 59 | 52·92 |
| 9 | 5270 Nov. 27 | 1 | 27 | 31·761 | +51 | 17 | 33·07 |
| | 5271 ,, | | | 31·753 | | | 33·03 |
| | 5272 ,, | | | 31·769 | | | 33·15 |
| | 5273 ,, | | | 31·744 | | | 33·15 |
| | 5274 ,, | | | 31·748 | | | 33·13 |
| | 5275 Nov. 29 | | | 31·766 | | | 33·26 |
| | | 1 | 27 | 31·757 | +51 | 17 | 33·13 |
| 10 | 5285 Dec. 9 | 1 | 28 | 8·028 | +47 | 25 | 6·16 |
| | 5286 ,, | | | 8·051 | | | 5·98 |
| | 5287 Dec. 10 | | | 8·035 | | | 6·18 |
| | | 1 | 28 | 8·038 | +47 | 25 | 6·11 |
| 11 | 5267 Nov. 25 | 1 | 28 | 30·856 | +52 | 2 | 4·34 |
| | 5268 ,, | | | 30·835 | | | 4·16 |
| | 5269 ,, | | | 30·839 | | | 4·02 |
| | 5270 Nov. 27 | | | 30·855 | | | 4·41 |
| | 5271 ,, | | | 30·867 | | | 4·24 |
| | 5272 ,, | | | 30·870 | | | 4·09 |
| | 5273 ,, | | | 30·874 | | | 4·39 |
| | 5274 ,, | | | 30·877 | | | 4·58 |
| | | 1 | 28 | 30·859 | +52 | 2 | 4·28 |
| 12 | 5288 Dec. 13 | 1 | 28 | 35·702 | +45 | 33 | 1·53 |
| | 5289 ,, | | | 35·716 | | | 1·62 |
| | 5290 ,, | | | 35·707 | | | 1·83 |
| | 5294 ,, | | | 35·698 | | | 1·79 |
| | 5297 ,, | | | 35·683 | | | 1·45 |
| | 5299 Dec. 15 | | | 35·711 | | | 1·54 |
| | 5300 ,, | | | 35·744 | | | 1·42 |
| | 5304 ,, | | | 35·711 | | | 1·79 |
| | 5306 ,, | | | 35·716 | | | 1·59 |
| | 5307 ,, | | | 35·712 | | | 1·81 |
| | | 1 | 28 | 35·710 | +45 | 33 | 1·64 |
| 13 | 5270 Nov. 27 | 1 | 28 | 56·078 | +51 | 19 | 30·92 |
| | 5271 ,, | | | 56·082 | | | 30·92 |
| | 5272 ,, | | | 56·077 | | | 31·13 |
| | 5273 ,, | | | 56·077 | | | 31·14 |
| | 5274 ,, | | | 56·069 | | | 31·11 |
| | 5275 Nov. 29 | | | 56·095 | | | 31·24 |
| | | 1 | 28 | 56·080 | +51 | 19 | 31·08 |
| 14 | 5276 Dec. 6 | 1 | 28 | 56·706 | +48 | 43 | 0·59 |
| | 5277 ,, | | | 56·683 | | | 0·57 |
| | 5278 ,, | | | 56·688 | | | 0·58 |
| | 5279 Dec. 7 | | | 56·686 | | | 0·90 |
| | 5280 ,, | | | 56·698 | | | 0·84 |
| | 5283 ,, | | | 56·698 | | | 0·78 |
| | | 1 | 28 | 56·693 | +48 | 43 | 0·71 |
| 15 | 5288 Dec. 13 | 1 | 29 | 14·164 | +46 | 15 | 23·67 |
| | 5289 ,, | | | 14·161 | | | 23·67 |
| | 5290 ,, | | | 14·170 | | | 23·82 |
| | 5294 ,, | | | 14·158 | | | 23·90 |
| | | 1 | 29 | 14·163 | +46 | 15 | 23·77 |
| 16 | 5287 Dec. 10 | 1 | 29 | 28·105 | +46 | 51 | 44·53 |
| 17 | 5276 Dec. 6 | 1 | 29 | 28·840 | +48 | 30 | 56·06 |
| | 5277 ,, | | | 28·831 | | | 56·11 |
| | 5278 ,, | | | 28·844 | | | 56·06 |
| | 5279 Dec. 7 | | | 28·842 | | | 56·10 |
| | 5280 ,, | | | 28·836 | | | 56·03 |
| | 5283 ,, | | | 28·842 | | | 56·01 |
| | | 1 | 29 | 28·839 | +48 | 30 | 56·06 |
| 18 | 5288 Dec. 13 | 1 | 29 | 44·583 | +45 | 31 | 56·36 |
| | 5289 ,, | | | 44·598 | | | 56·74 |
| | 5290 ,, | | | 44·598 | | | 56·79 |
| | 5294 ,, | | | 44·550 | | | 56·80 |
| | 5299 Dec. 15 | | | 44·589 | | | 56·45 |
| | 5300 ,, | | | 44·593 | | | 56·67 |
| | 5304 ,, | | | 44·578 | | | 56·87 |
| | 5306 ,, | | | 44·564 | | | 56·65 |
| | 5307 ,, | | | 44·551 | | | 56·85 |
| | | 1 | 29 | 44·577 | +45 | 31 | 56·69 |
| 19 | 5288 Dec. 13 | 1 | 29 | 52·480 | +45 | 8 | 18·08 |
| | 5289 ,, | | | 52·502 | | | 18·06 |
| | 5290 ,, | | | 52·508 | | | 18·16 |
| | 5294 ,, | | | 52·478 | | | 18·18 |
| | 5297 ,, | | | 52·498 | | | 18·39 |
| | 5299 Dec. 15 | | | 52·499 | | | 18·16 |
| | 5300 ,, | | | 52·529 | | | 18·13 |
| | 5304 ,, | | | 52·508 | | | 18·00 |
| | 5306 ,, | | | 52·523 | | | 18·05 |
| | 5307 ,, | | | 52·500 | | | 18·01 |
| | 5308 Dec. 16 | | | 52·496 | | | 18·13 |
| | | 1 | 29 | 52·502 | +45 | 8 | 18·12 |

TABLE VIII.—Mean Places of Comparison Stars Deduced from Photographs.

| No. | Plate No. and Date. | R.A. 1900·0. | Dec. 1900·0. |
|---|---|---|---|
| | 1900. | h m s | ° ′ ″ |
| 20 | 5288 Dec. 13 | 1 30 26·815 | +46 11 11·24 |
| | 5289 „ | 26·830 | 11·28 |
| | 5290 „ | 26·827 | 11·26 |
| | 5294 „ | 26·842 | 11·20 |
| | 5297 „ | 26·834 | 11·34 |
| | | 1 30 26·830 | +46 11 11·26 |
| 21 | 5267 Nov. 25 | 1 30 59·194 | +51 56 43·89 |
| | 5268 „ | 59·180 | 43·65 |
| | 5269 „ | 59·181 | 43·56 |
| | 5270 Nov. 27 | 59·213 | 43·71 |
| | 5271 „ | 59·183 | 43·79 |
| | 5272 „ | 59·191 | 43·59 |
| | 5273 „ | 59·184 | 43·84 |
| | 5274 „ | 59·190 | 43·70 |
| | | 1 30 59·189 | +51 56 43·72 |
| 22 | 5288 Dec. 13 | 1 32 7·742 | +45 59 28·54 |
| | 5289 „ | 7·717 | 28·62 |
| | 5290 „ | 7·726 | 28·66 |
| | 5294 „ | 7·728 | 28·44 |
| | 5297 „ | 7·747 | 28·94 |
| | | 1 32 7·732 | +45 59 28·64 |
| 23 | 5261 Nov. 23 | 1 32 10·253 | +52 45 41·77 |
| | 5262 „ | 10·237 | 41·82 |
| | 5263 „ | 10·252 | 41·50 |
| | 5264 „ | 10·260 | 41·49 |
| | 5267 Nov. 25 | 10·238 | 41·61 |
| | 5268 „ | 10·269 | 41·70 |
| | 5269 „ | 10·270 | 41·50 |
| | | 1 32 10·254 | +52 45 41·63 |
| 24 | 5288 Dec. 13 | 1 32 30·344 | +45 50 40·16 |
| | 5289 „ | 30·329 | 40·11 |
| | 5290 „ | 30·349 | 40·04 |
| | 5294 „ | 30·326 | 40·00 |
| | 5297 „ | 30·374 | 40·11 |
| | 5299 Dec. 15 | 30·364 | 40·23 |
| | 5300 „ | 30·361 | 40·14 |
| | 5304 „ | 30·382 | 40·25 |
| | 5306 „ | 30·364 | 40·20 |
| | 5307 „ | 30·364 | 40·33 |
| | | 1 32 30·356 | +45 50 40·16 |
| 25 | 5299 Dec. 15 | 1 32 44·902 | +44 40 23·18 |
| | 5300 „ | 44·900 | 23·29 |
| | 5304 „ | 44·890 | 23·40 |
| | 5306 „ | 44·900 | 23·48 |
| | 5307 „ | 44·898 | 23·51 |
| | 5308 Dec. 16 | 44·883 | 23·60 |
| | 5309 Dec. 17 | 44·904 | 23·73 |
| | 5310 „ | 44·902 | 23·59 |
| | 5313 „ | 44·879 | 23·63 |
| | | 1 32 44·895 | +44 40 23·49 |
| 26 | 5270 Nov. 27 | 1 32 52·458 | +51 30 58·35 |
| | 5271 „ | 52·452 | 58·50 |
| | 5272 „ | 52·453 | 58·57 |
| | 5273 „ | 52·444 | 58·44 |
| | 5274 „ | 52·447 | 58·31 |
| | | 1 32 52·451 | +51 30 58·43 |
| 27 | 5267 Nov. 25 | 1 32 56·421 | +51 46 48·02 |
| | 5268 „ | 56·378 | 48·19 |
| | 5269 „ | 56·400 | 48·14 |
| | 5270 Nov. 27 | 56·432 | 48·14 |
| | 5271 „ | 56·427 | 48·20 |
| | 5272 „ | 56·414 | 48·01 |
| | 5273 „ | 56·409 | 48·24 |
| | 5274 „ | 56·410 | 48·07 |
| | | 1 32 56·411 | +51 46 48·13 |
| 28 | 5261 Nov. 23 | 1 33 30·761 | +52 23 43·07 |
| | 5262 „ | 30·762 | 43·08 |
| | 5263 „ | 30·751 | 43·05 |
| | 5264 „ | 30·766 | 42·98 |
| | 5267 Nov. 25 | 30·767 | 43·30 |
| | 5268 „ | 30·759 | 43·16 |
| | 5269 „ | 30·776 | 43·16 |
| | | 1 33 30·763 | +52 23 43·11 |
| 29 | 5309 Dec. 17 | 1 33 47·417 | +43 59 22·27 |
| | 5310 „ | 47·414 | 22·33 |
| | 5313 „ | 47·403 | 21·98 |
| | 5314 Dec. 19 | 47·434 | 22·31 |
| | 5315 „ | 47·418 | 22·25 |
| | 5318 „ | 47·434 | 22·16 |
| | 5319 „ | 47·435 | 22·44 |
| | 5322 „ | 47·462 | 22·10 |
| | 5324 „ | 47·418 | 22·55 |
| | | 1 33 47·426 | +43 59 22·27 |
| 30 | 5253 Nov. 22 | 1 33 47·642 | +52 55 58·94 |
| | 5254 „ | 47·640 | 59·00 |
| | 5256 „ | 47·651 | 58·71 |
| | 5257 „ | 47·632 | 58·72 |
| | 5258 „ | 47·631 | 58·83 |
| | 5259 „ | 47·641 | 58·73 |
| | 5260 „ | 47·639 | 58·76 |
| | 5261 Nov. 23 | 47·627 | 58·86 |
| | 5262 „ | 47·611 | 58·96 |
| | 5263 „ | 47·628 | 58·75 |
| | 5264 „ | 47·629 | 58·66 |
| | | 1 33 47·634 | +52 55 58·81 |
| 31 | 5288 Dec. 13 | 1 34 4·059 | +45 35 10·91 |
| | 5289 „ | 4·058 | 11·02 |
| | 5290 „ | 4·065 | 11·16 |
| | 5294 „ | 4·041 | 11·02 |
| | 5297 „ | 4·088 | 11·29 |
| | 5299 Dec. 15 | 4·098 | 11·15 |
| | 5300 „ | 4·083 | 10·91 |
| | 5304 „ | 4·085 | 10·95 |
| | 5306 „ | 4·074 | 11·04 |
| | 5307 „ | 4·062 | 11·06 |
| | | 1 34 4·071 | +45 35 11·05 |
| 32 | 5253 Nov. 22 | 1 34 16·478 | +52 53 15·78 |
| | 5254 „ | 16·489 | 15·58 |
| | 5256 „ | 16·498 | 15·57 |
| | 5257 „ | 16·506 | 15·48 |
| | 5258 „ | 16·500 | 15·55 |
| | 5259 „ | 16·520 | 15·53 |
| | 5260 „ | 16·502 | 15·55 |
| | 5261 Nov. 23 | 16·492 | 15·63 |
| | 5262 „ | 16·503 | 15·70 |
| | 5263 „ | 16·483 | 15·55 |
| | 5264 „ | 16·480 | 15·59 |
| | | 1 34 16·496 | +52 53 15·59 |
| 33 | 5299 Dec. 15 | 1 34 28·930 | +45 20 42·75 |
| | 5300 „ | 28·915 | 42·68 |
| | 5304 „ | 28·926 | 42·47 |
| | 5306 „ | 28·923 | 42·58 |
| | 5307 „ | 28·912 | 42·66 |
| | 5308 Dec. 16 | 28·915 | 42·67 |
| | | 1 34 28·920 | +45 20 42·64 |
| 34 | 5299 Dec. 15 | 1 34 33·794 | +44 51 18·78 |
| | 5300 „ | 33·768 | 18·78 |
| | 5304 „ | 33·774 | 18·53 |
| | 5306 „ | 33·776 | 18·73 |
| | 5307 „ | 33·775 | 18·85 |
| | 5308 Dec. 16 | 33·762 | 18·93 |
| | 5309 Dec. 17 | 33·760 | 19·05 |
| | 5310 „ | 33·735 | 18·98 |
| | 5313 „ | 33·769 | 18·99 |
| | | 1 34 33·768 | +44 51 18·85 |
| 35 | 5309 Dec. 17 | 1 35 13·897 | +44 48 35·65 |
| | 5310 „ | 13·892 | 35·58 |
| | 5313 „ | 13·893 | 35·62 |
| | | 1 35 13·894 | +44 48 35·62 |

## TABLE VIII.—Mean Places of Comparison Stars Deduced from Photographs.

| No. | Plate No. and Date. | R.A. 1900·0. | Dec. 1900·0. |
|---|---|---|---|
| | 1900. | h m s | ° ′ ″ |
| 36 | 5314 Dec. 19 | 1 35 27·807 | +43 38 21·97 |
| | 5315 „ | 27·805 | 21·93 |
| | 5318 „ | 27·792 | 21·72 |
| | 5319 „ | 27·799 | 21·76 |
| | 5322 „ | 27·806 | 21·79 |
| | 5324 „ | 27·794 | 22·00 |
| | | 1 35 27·801 | +43 38 21·86 |
| 37 | 5253 Nov.22 | 1 35 42·450 | +52 44 52·79 |
| | 5254 „ | 42·439 | 52·87 |
| | 5256 „ | 42·450 | 52·80 |
| | 5257 „ | 42·467 | 52·68 |
| | 5258 „ | 42·485 | 52·50 |
| | 5259 „ | 42·477 | 52·60 |
| | 5260 „ | 42·466 | 52·71 |
| | 5261 Nov.23 | 42·488 | 52·91 |
| | 5262 „ | 42·472 | 52·77 |
| | 5263 „ | 42·446 | 52·74 |
| | 5264 „ | 42·448 | 52·76 |
| | | 1 35 42·463 | +52 44 52·74 |
| 38 | 5253 Nov.22 | 1 35 47·553 | +52 59 46·00 |
| | 5254 „ | 47·544 | 46·14 |
| | 5256 „ | 47·539 | 46·14 |
| | 5257 „ | 47·553 | 46·04 |
| | 5258 „ | 47·558 | 45·95 |
| | 5259 „ | 47·555 | 45·96 |
| | 5260 „ | 47·560 | 46·04 |
| | | 1 35 47·552 | +52 59 46·04 |
| 39 | 5314 Dec. 19 | 1 35 49·483 | +43 21 19·67 |
| | 5315 „ | 49·511 | 19·62 |
| | 5318 „ | 49·516 | 19·34 |
| | 5319 „ | 49·496 | 19·34 |
| | 5322 „ | 49·513 | 19·49 |
| | 5324 „ | 49·511 | 19·42 |
| | | 1 35 49·505 | +43 21 19·48 |
| 40 | 5261 Nov.23 | 1 35 50·011 | +52 25 17·13 |
| | 5262 „ | 50·006 | 17·13 |
| | 5263 „ | 49·986 | 17·20 |
| | 5264 „ | 49·987 | 17·03 |
| | 5267 Nov.25 | 50·005 | 17·32 |
| | 5268 „ | 49·994 | 17·17 |
| | 5269 „ | 49·998 | 17·09 |
| | | 1 35 49·998 | +52 25 17·15 |
| | 1900. | h m s | ° ′ ″ |
| 41 | 5309 Dec. 17 | 1 36 32·054 | +44 4 32·29 |
| | 5310 „ | 32·042 | 32·46 |
| | 5313 „ | 32·047 | 32·15 |
| | 5314 Dec. 19 | 32·045 | 32·21 |
| | 5315 „ | (32·014) | 32·24 |
| | 5318 „ | 32·038 | 32·43 |
| | 5319 „ | 32·050 | 32·66 |
| | 5322 „ | 32·037 | 32·46 |
| | 5324 „ | 32·055 | 32·73 |
| | | 1 36 32·046 | +44 4 32·40 |
| 42 | 5308 Dec. 16 | 1 36 55·144 | +44 30 12·56 |
| | 5309 Dec. 17 | 55·139 | 12·55 |
| | 5310 „ | 55·141 | 12·71 |
| | 5313 „ | 55·117 | 12·49 |
| | | 1 36 55·135 | +44 30 12·58 |
| 43 | 5253 Nov.22 | 1 37 10·044 | +52 47 16·43 |
| | 5254 „ | 10·043 | 16·46 |
| | 5256 „ | 10·050 | 16·41 |
| | 5257 „ | 10·035 | 16·42 |
| | 5258 „ | 10·069 | 16·31 |
| | 5259 „ | 10·063 | 16·48 |
| | 5260 „ | 10·049 | 16·53 |
| | | 1 37 10·050 | +52 47 16·43 |
| 44 | 5253 Nov.22 | 1 37 13·077 | +53 3 28·63 |
| | 5254 „ | 13·059 | 28·46 |
| | 5256 „ | 13·041 | 28·43 |
| | 5257 „ | 13·032 | 28·42 |
| | 5258 „ | 13·077 | 28·30 |
| | 5259 „ | 13·066 | 28·43 |
| | 5260 „ | 13·078 | 28·30 |
| | | 1 37 13·061 | +53 3 28·42 |
| 45 | 5314 Dec. 19 | 1 37 34·704 | +43 50 52·95 |
| | 5315 „ | 34·700 | 53·12 |
| | 5318 „ | 34·750 | 53·15 |
| | 5319 „ | 34·737 | 53·47 |
| | 5322 „ | 34·732 | 53·07 |
| | 5324 „ | 34·735 | 53·36 |
| | | 1 37 34·726 | +43 50 53·19 |
| 46 | 5314 Dec. 19 | 1 38 31·058 | +43 12 24·44 |
| | 5315 „ | 31·068 | 24·36 |
| | 5318 „ | 31·039 | 24·14 |
| | 5319 „ | 31·057 | 24·24 |
| | 5322 „ | 31·051 | 24·49 |
| | 5324 „ | 31·061 | 24·32 |
| | | 1 38 31·056 | +43 12 24·33 |
| | 1900. | h m s | ° ′ ″ |
| 47 | 5314 Dec. 19 | 1 38 56·680 | +43 43 9·84 |
| | 5315 „ | 56·662 | 9·69 |
| | 5318 „ | 56·677 | 9·59 |
| | 5319 „ | 56·664 | 9·72 |
| | 5322 „ | 56·678 | 9·62 |
| | 5324 „ | 56·680 | 9·75 |
| | | 1 38 56·673 | +43 43 9·70 |
| 48 | 5314 Dec. 19 | 1 39 47·344 | +43 22 29·78 |
| | 5315 „ | 47·331 | 29·91 |
| | 5318 „ | 47·337 | 29·66 |
| | 5319 „ | 47·348 | 29·75 |
| | 5322 „ | 47·336 | 30·07 |
| | 5324 „ | 47·361 | 29·63 |
| | | 1 39 47·343 | +43 22 29·80 |
| 49 | 5248 Nov. 18 | 1 39 54·734 | +53 31 10·82 |
| | 5249 „ | 54·750 | 10·65 |
| | 5250 „ | 54·734 | 10·80 |
| | | 1 39 54·739 | +53 31 10·76 |
| 50 | 5327 Dec. 21 | 1 40 5·938 | +42 21 15·78 |
| | 5328 „ | 5·931 | 15·85 |
| | 5329 „ | 5·931 | 15·90 |
| | | 1 40 5·933 | +42 21 15·84 |
| 51 | 5248 Nov. 18 | 1 40 13·921 | +53 49 19·67 |
| | 5249 „ | 13·892 | 19·80 |
| | 5250 „ | 13·903 | 19·78 |
| | | 1 40 13·905 | +53 49 19·75 |
| 52 | 5327 Dec. 21 | 1 40 29·976 | +43 4 50·30 |
| | 5328 „ | 29·965 | 50·20 |
| | 5329 „ | 29·975 | 50·14 |
| | | 1 40 29·972 | +43 4 50·21 |
| 53 | 5248 Nov. 18 | 1 41 12·895 | +53 19 32·63 |
| | 5249 „ | 12·901 | 32·56 |
| | 5250 „ | 12·905 | 32·67 |
| | | 1 41 12·900 | +53 19 32·62 |
| 54 | 5248 Nov. 18 | 1 41 39·132 | +53 32 57·26 |
| | 5249 „ | 39·117 | 57·39 |
| | 5250 „ | 39·101 | 57·29 |
| | | 1 41 39·117 | +53 32 57·31 |

## TABLE VIII.—Mean Places of Comparison Stars Deduced from Photographs.

| No. | Plate No. and Date. | R.A. 1900·0. | Dec. 1900·0. |
|---|---|---|---|
| | 1900. | h m s | ° ′ ″ |
| 55 | 5248 Nov. 18 | 1 42 4·141 | +53 48 23·24 |
| | 5249 „ | 4·138 | 23·27 |
| | 5250 „ | 4·124 | 23·43 |
| | | 1 42 4·134 | +53 48 23·31 |
| 56 | 5327 Dec. 21 | 1 42 10·047 | +42 49 25·34 |
| | 5328 „ | 10·070 | 25·28 |
| | 5329 „ | 10·047 | 25·29 |
| | | 1 42 10·055 | +42 49 25·30 |
| 57 | 5327 Dec. 21 | 1 42 14·241 | +42 17 1·59 |
| | 5328 „ | 14·256 | 1·65 |
| | 5329 „ | 14·243 | 1·76 |
| | | 1 42 14·247 | +42 17 1·67 |
| 58 | 5327 Dec. 21 | 1 43 15·461 | +42 32 14·00 |
| | 5328 „ | 15·443 | 13·91 |
| | 5329 „ | 15·454 | 14·06 |
| | | 1 43 15·453 | +42 32 13·99 |
| 59 | 5248 Nov. 18 | 1 43 47·147 | +53 40 13·34 |
| | 5249 „ | 47·138 | 13·51 |
| | 5250 „ | 47·123 | 13·51 |
| | | 1 43 47·136 | +53 40 13·45 |
| 60 | 5237 Nov. 14 | 1 44 33·017 | +54 14 5·13 |
| | 5238 „ | 33·023 | 5·28 |
| | 5239 Nov. 15 | 33·037 | 5·57 |
| | 5240 „ | 33·012 | 5·67 |
| | 5241 „ | 33·015 | 5·50 |
| | 5242 „ | 33·009 | 5·39 |
| | 5243 „ | 33·012 | 5·22 |
| | | 1 44 33·018 | +54 14 5·39 |
| 61 | 5237 Nov. 14 | 1 45 19·245 | +54 14 28·56 |
| | 5238 „ | 19·266 | 28·65 |
| | 5239 Nov. 15 | 19·273 | 29·03 |
| | 5240 „ | 19·260 | 28·92 |
| | 5241 „ | 19·266 | 28·98 |
| | 5242 „ | 19·259 | 28·67 |
| | 5243 „ | 19·257 | 28·70 |
| | | 1 45 19·261 | +54 14 28·79 |
| | 1900. | h m s | ° ′ ″ |
| 62 | 5237 Nov. 14 | 1 46 58·034 | +54 15 6·94 |
| | 5238 „ | 58·009 | 7·21 |
| | 5239 Nov. 15 | 58·021 | 7·11 |
| | 5240 „ | 58·031 | 7·11 |
| | 5241 „ | 58·024 | 7·29 |
| | 5242 „ | 58·016 | 6·95 |
| | 5243 „ | 58·031 | 7·01 |
| | | 1 46 58·024 | +54 15 7·09 |
| 63 | 5237 Nov. 14 | 1 46 58·971 | +53 54 18·99 |
| | 5238 „ | 58·993 | 19·13 |
| | 5239 Nov. 15 | 58·995 | 19·36 |
| | 5240 „ | 58·994 | 19·17 |
| | 5241 „ | 59·000 | 19·13 |
| | 5242 „ | 58·998 | 19·01 |
| | 5243 „ | 58·998 | 19·07 |
| | | 1 46 58·993 | +53 54 19·12 |
| 64 | 5237 Nov. 14 | 1 47 16·105 | +53 45 15·27 |
| | 5238 „ | 16·073 | 15·26 |
| | 5239 Nov. 15 | 16·115 | 15·44 |
| | 5240 „ | 16·098 | 15·42 |
| | 5241 „ | 16·104 | 15·30 |
| | 5242 „ | 16·104 | 15·25 |
| | 5243 „ | 16·136 | 15·19 |
| | | 1 47 16·105 | +53 45 15·30 |
| 65 | 5331 Dec. 26 | 1 48 4·182 | +40 41 54·03 |
| 66 | 5331 Dec. 26 | 1 48 20·141 | +40 12 19·59 |
| 67 | 5230 Nov. 13 | 1 48 43·398 | +54 20 2·38 |
| | 5231 „ | 43·420 | 2·63 |
| | 5232 „ | 43·408 | 2·50 |
| | 5234 „ | 43·391 | 2·33 |
| | 5235 „ | 43·402 | 2·44 |
| | 5236 „ | 43·401 | 2·42 |
| | 5237 Nov. 14 | 43·424 | 2·42 |
| | 5238 „ | 43·397 | 2·44 |
| | 5239 Nov. 15 | 43·402 | 2·51 |
| | 5240 „ | 43·388 | 2·59 |
| | 5241 „ | 43·397 | 2·46 |
| | 5242 „ | 43·414 | 2·35 |
| | 5243 „ | 43·390 | 2·16 |
| | | 1 48 43·402 | +54 20 2·43 |
| 68 | 5331 Dec. 26 | 1 49 2·195 | +40 6 32·81 |
| 69 | 5331 Dec. 26 | 1 49 20·414 | +40 51 8·75 |
| | 1900. | h m s | ° ′ ″ |
| 70 | 5230 Nov. 13 | 1 49 37·266 | +54 8 17·77 |
| | 5231 „ | 37·279 | 17·90 |
| | 5232 „ | 37·281 | 17·86 |
| | 5234 „ | 37·295 | 17·62 |
| | 5235 „ | 37·282 | 17·84 |
| | 5236 „ | 37·274 | 17·76 |
| | 5237 Nov. 14 | 37·315 | 17·54 |
| | 5238 „ | 37·302 | 17·62 |
| | 5239 Nov. 15 | 37·282 | 18·12 |
| | 5240 „ | 37·298 | 17·92 |
| | 5241 „ | 37·285 | 17·82 |
| | 5242 „ | 37·274 | 17·66 |
| | 5243 „ | 37·296 | 17·64 |
| | | 1 49 37·287 | +54 8 17·77 |
| 71 | 5230 Nov. 13 | 1 50 54·205 | +53 52 16·21 |
| | 5231 „ | 54·198 | 16·21 |
| | 5232 „ | 54·203 | 16·22 |
| | 5234 „ | 54·204 | 16·19 |
| | 5235 „ | 54·222 | 16·17 |
| | 5236 „ | 54·205 | 16·19 |
| | 5237 Nov. 14 | 54·226 | 16·00 |
| | 5238 „ | 54·221 | 16·05 |
| | | 1 50 54·211 | +53 52 16·16 |
| 72 | 5226 Nov. 11 | 1 51 19·326 | +54 26 36·72 |
| | 5227 „ | 19·328 | 36·80 |
| | 5228 „ | 19·326 | 36·66 |
| | 5229 „ | 19·313 | 36·54 |
| | 5230 Nov. 13 | 19·299 | 36·72 |
| | 5231 „ | 19·309 | 36·64 |
| | 5232 „ | 19·336 | 36·75 |
| | 5234 „ | 19·349 | 36·64 |
| | 5235 „ | 19·352 | 36·70 |
| | 5236 „ | 19·330 | 36·77 |
| | | 1 51 19·327 | +54 26 36·69 |
| 73 | 5331 Dec. 26 | 1 51 55·548 | +40 20 4·08 |
| | 5333 Dec. 28 | 55·538 | 4·33 |
| | 5334 „ | 55·542 | 4·22 |
| | 5335 „ | 55·547 | 4·26 |
| | 5336 „ | 55·542 | 4·08 |
| | | 1 51 55·543 | +40 20 4·19 |
| 74 | 5226 Nov. 11 | 1 51 58·490 | +54 3 30·95 |
| | 5227 „ | 58·511 | 30·98 |
| | 5228 „ | 58·490 | 31·09 |
| | 5229 „ | 58·497 | 30·58 |
| | 5230 Nov. 13 | 58·498 | 31·05 |
| | 5231 „ | 58·481 | 30·92 |
| | 5232 „ | 58·504 | 30·94 |
| | 5234 „ | 58·518 | 30·73 |
| | 5235 „ | 58·523 | 30·89 |
| | 5236 „ | 58·515 | 30·95 |
| | | 1 51 58·503 | +54 3 30·91 |

## TABLE VIII.—Mean Places of Comparison Stars Deduced from Photographs.

| No. | Plate No. and Date. | R.A. 1900·0. | Dec. 1900·0. |
|---|---|---|---|
| | 1900. | h m s | ° ′ ″ |
| 75 | 5333 Dec. 28 | 1 52 16·206 | +39 34 45·68 |
| | 5334 ,, | 16·211 | 45·74 |
| | 5335 ,, | 16·174 | 45·90 |
| | 5336 ,, | 16·174 | 45·78 |
| | 5337 Dec. 29 | 16·192 | 45·87 |
| | | 1 52 16·191 | +39 34 45·79 |
| 76 | 5331 Dec. 26 | 1 52 30·221 | +40 35 35·46 |
| 77 | 5218 Nov. 10 | 1 52 31·369 | +54 26 27·06 |
| | 5219 ,, | 31·351 | 27·06 |
| | 5220 ,, | 31·376 | 27·03 |
| | 5222 ,, | 31·342 | 26·55 |
| | 5223 ,, | 31·367 | 26·62 |
| | 5226 Nov. 11 | 31·347 | 27·03 |
| | 5227 ,, | 31·363 | 27·05 |
| | 5228 ,, | 31·362 | 26·99 |
| | 5229 ,, | 31·373 | 26·78 |
| | 5230 Nov. 13 | 31·371 | 26·97 |
| | 5231 ,, | 31·371 | 26·92 |
| | 5232 ,, | 31·381 | 26·99 |
| | 5234 ,, | 31·371 | 26·98 |
| | 5235 ,, | 31·374 | 26·97 |
| | 5236 ,, | 31·352 | 27·16 |
| | | 1 52 31·365 | +54 26 26·94 |
| 78 | 5333 Dec. 28 | 1 53 13·830 | +39 56 24·26 |
| | 5334 ,, | 13·808 | 24·03 |
| | 5335 ,, | 13·819 | 24·23 |
| | 5336 ,, | 13·850 | 24·32 |
| | | 1 53 13·827 | +39 56 24·21 |
| 79 | 5333 Dec. 28 | 1 53 47·063 | +39 20 30·96 |
| | 5334 ,, | 47·076 | 30·97 |
| | 5335 ,, | 47·054 | 31·20 |
| | 5336 ,, | 47·071 | 31·13 |
| | 5337 Dec. 29 | 47·050 | 31·12 |
| | 5338 ,, | 47·042 | 31·13 |
| | | 1 53 47·059 | +39 20 31·09 |
| 80 | 5218 Nov. 10 | 1 54 2·276 | +53 59 38·21 |
| | 5219 ,, | 2·259 | 38·30 |
| | 5220 ,, | 2·263 | 38·29 |
| | 5222 ,, | 2·306 | 38·22 |
| | 5223 ,, | 2·273 | 37·98 |
| | 5226 Nov. 11 | 2·269 | 38·10 |
| | 5227 ,, | 2·264 | 38·34 |
| | 5228 ,, | 2·246 | 38·24 |
| | 5229 ,, | 2·281 | 38·05 |
| | 5230 Nov. 13 | 2·279 | 38·30 |
| | 5231 ,, | 2·286 | 38·16 |
| | 5232 ,, | 2·295 | 38·30 |
| | 5234 ,, | 2·275 | 38·08 |
| | 5235 ,, | 2·301 | 38·16 |
| | 5236 ,, | 2·289 | 38·34 |
| | | 1 54 2·277 | +53 59 38·20 |
| | 1900. | h m s | ° ′ ″ |
| 81 | 5213 Nov. 9 | 1 54 21·491 | +54 32 6·99 |
| | 5214 ,, | 21·488 | 6·70 |
| | 5215 ,, | 21·507 | 7·04 |
| | 5216 ,, | 21·514 | 7·18 |
| | 5217 ,, | 21·508 | 7·04 |
| | 5218 Nov. 10 | 21·511 | 7·06 |
| | 5219 ,, | 21·499 | 7·24 |
| | 5220 ,, | 21·525 | 7·12 |
| | 5222 ,, | 21·492 | 6·93 |
| | 5223 ,, | 21·511 | 6·96 |
| | 5226 Nov. 11 | 21·479 | 7·02 |
| | 5227 ,, | 21·496 | 7·12 |
| | 5228 ,, | 21·483 | 7·01 |
| | 5229 ,, | 21·528 | 6·97 |
| | 5230 Nov. 13 | 21·547 | 7·11 |
| | 5231 ,, | 21·518 | 7·15 |
| | 5232 ,, | 21·529 | 7·12 |
| | 5234 ,, | 21·505 | 7·06 |
| | 5235 ,, | 21·525 | 7·11 |
| | 5236 ,, | 21·516 | 7·16 |
| | | 1 54 21·509 | +54 32 7·05 |
| 82 | 5333 Dec. 28 | 1 54 48·468 | +39 7 21·60 |
| | 5334 ,, | 48·463 | 21·63 |
| | 5335 ,, | 48·445 | 21·66 |
| | 5336 ,, | 48·451 | 21·80 |
| | 5337 Dec. 29 | 48·452 | 21·72 |
| | 5338 ,, | 48·447 | 21·49 |
| | | 1 54 48·454 | +39 7 21·65 |
| 83 | 5333 Dec. 28 | 1 54 57·351 | +38 52 37·26 |
| | 5334 ,, | ·364 | 37·23 |
| | 5335 ,, | ·304 | 37·44 |
| | 5337 Dec. 29 | ·343 | 37·53 |
| | 5338 ,, | ·329 | 37·16 |
| | | 1 54 57·338 | +38 52 37·32 |
| 84 | 533 Dec. 28 | 1 55 41·703 | +40 4 14·46 |
| | 5334 ,, | 41·682 | 14·55 |
| | 5335 ,, | 41·693 | 14·35 |
| | 5336 ,, | 41·702 | 14·33 |
| | | 1 55 41·695 | +40 4 14·42 |
| 85 | 5333 Dec. 28 | 1 55 49·510 | +39 38 17·59 |
| | 5334 ,, | 49·498 | 17·65 |
| | 5337 Dec. 29 | 49·522 | 17·62 |
| | 5338 ,, | 49·479 | 17·77 |
| | | 1 55 49·502 | +39 38 17·66 |
| | 1900. | h m s | ° ′ ″ |
| 86 | 5212 Nov. 9 | 1 56 2·452 | +54 1 36·45 |
| | 5213 ,, | 2·441 | 36·46 |
| | 5214 ,, | 2·444 | 36·29 |
| | 5215 ,, | 2·464 | 36·49 |
| | 5216 ,, | 2·446 | 36·49 |
| | 5217 ,, | 2·457 | 36·46 |
| | 5218 Nov. 10 | 2·435 | 36·43 |
| | 5219 ,, | 2·415 | 36·52 |
| | 5220 ,, | 2·426 | 36·32 |
| | 5222 ,, | 2·443 | 36·25 |
| | 5223 ,, | 2·459 | 36·36 |
| | 5226 Nov. 11 | 2·450 | 36·41 |
| | 5227 ,, | 2·438 | 36·61 |
| | 5228 ,, | 2·441 | 36·54 |
| | 5229 ,, | 2·441 | 36·31 |
| | | 1 56 2·444 | +54 1 36·43 |
| 87 | 5212 Nov. 9 | 1 56 34·691 | +54 34 52·29 |
| | 5213 ,, | 34·683 | 52·28 |
| | 5214 ,, | 34·675 | 52·11 |
| | 5215 ,, | 34·687 | 52·44 |
| | 5216 ,, | 34·707 | 52·33 |
| | 5217 ,, | 34·715 | 52·41 |
| | 5218 Nov. 10 | 34·689 | 52·19 |
| | 5219 ,, | 34·684 | 52·46 |
| | 5220 ,, | 34·672 | 52·27 |
| | 5222 ,, | 34·696 | 52·19 |
| | 5223 ,, | 34·694 | 52·16 |
| | 5226 Nov. 11 | 34·684 | 52·36 |
| | 5227 ,, | 34·685 | 52·27 |
| | 5228 ,, | 34·699 | 52·13 |
| | 5229 ,, | 34·699 | 52·16 |
| | | 1 56 34·691 | +54 34 52·27 |
| 88 | 5210 Nov. 7 | 1 57 12·782 | +54 20 9·82 |
| | 5211 ,, | 12·815 | 9·99 |
| | 5212 Nov. 9 | 12·806 | 10·15 |
| | 5213 ,, | 12·816 | 10·16 |
| | 5214 ,, | 12·805 | 9·90 |
| | 5215 ,, | 12·816 | 10·09 |
| | 5216 ,, | 12·822 | 10·31 |
| | 5217 ,, | 12·822 | 10·08 |
| | 5218 Nov. 10 | 12·833 | 10·18 |
| | 5219 ,, | 12·795 | 10·05 |
| | 5220 ,, | 12·803 | 10·36 |
| | 5222 ,, | 12·829 | 9·95 |
| | 5223 ,, | 12·820 | 10·16 |
| | 5226 Nov. 11 | 12·807 | 9·99 |
| | 5227 ,, | 12·800 | 10·04 |
| | 5228 ,, | 12·811 | 10·01 |
| | 5229 ,, | 12·795 | 9·93 |
| | | 1 57 12·810 | +54 20 10·07 |
| 89 | 5337 Dec. 29 | 1 58 10·704 | +38 49 34·50 |
| | 5338 ,, | 10·718 | 34·36 |
| | | 1 58 10·711 | +38 49 34·43 |

TABLE VIII.—Mean Places of Comparison Stars Deduced from Photographs.

| No. | Plate No. and Date. | R.A. 1900·0. | Dec. 1900·0. |
|---|---|---|---|
| | 1900. | h m s | ° ′ ″ |
| 90 | 5210 Nov. 7 | 1 58 15·270 | +53 57 45·50 |
| | 5211 ,, | 15·307 | 45·39 |
| | 5212 Nov. 9 | 15·308 | 45·61 |
| | 5213 ,, | 15·308 | 45·42 |
| | 5214 ,, | 15·308 | 45·39 |
| | 5215 ,, | 15·306 | 45·66 |
| | 5216 ,, | 15·313 | 45·83 |
| | 5217 ,, | 15·321 | 45·54 |
| | 5218 Nov. 10 | 15·293 | 45·43 |
| | 5219 ,, | 15·313 | 45·62 |
| | 5220 ,, | 15·304 | 45·43 |
| | 5222 ,, | 15·313 | 45·49 |
| | 5223 ,, | 15·298 | 45·56 |
| | | 1 58 15·305 | +53 57 45·53 |
| 91 | 5337 Dec. 29 | 1 58 44·476 | +39 3 35·07 |
| | 5338 ,, | 44·484 | 35·01 |
| | | 1 58 44·480 | +39 3 35·04 |
| 92 | 5210 Nov. 7 | 1 59 26·022 | +54 14 57·53 |
| | 5211 ,, | 26·059 | 57·38 |
| | 5212 Nov. 9 | 26·036 | 57·47 |
| | 5213 ,, | 26·032 | 57·40 |
| | 5214 ,, | 26·035 | 57·17 |
| | 5215 ,, | 26·059 | 57·33 |
| | 5216 ,, | 26·065 | 57·49 |
| | 5217 ,, | 26·066 | 57·59 |
| | 5218 Nov. 10 | 26·042 | 57·33 |
| | 5219 ,, | 26·037 | 57·58 |
| | 5220 ,, | 26·035 | 57·46 |
| | 5222 ,, | 26·039 | 57·14 |
| | 5223 ,, | 26·018 | 57·24 |
| | | 1 59 26·042 | +54 14 57·39 |
| 93 | 5210 Nov. 7 | 1 59 33·639 | +54 25 37·78 |
| | 5211 ,, | 33·669 | 38·06 |
| | 5212 Nov. 9 | 33·680 | 37·92 |
| | 5213 ,, | 33·663 | 37·93 |
| | 5214 ,, | 33·681 | 37·61 |
| | 5215 ,, | 33·697 | 38·05 |
| | 5216 ,, | 33·689 | 37·67 |
| | 5217 ,, | 33·694 | 37·85 |
| | 5218 Nov. 10 | 33·660 | 37·76 |
| | 5219 ,, | 33·681 | 37·95 |
| | 5220 ,, | 33·665 | 37·79 |
| | 5222 ,, | 33·649 | 37·73 |
| | 5223 ,, | 33·656 | 37·94 |
| | | 1 59 33·671 | +54 25 37·85 |
| | 1900. | h m s | ° ′ ″ |
| 94 | 5210 Nov. 7 | 2 1 11·631 | +54 32 35·69 |
| | 5211 ,, | 11·604 | 35·80 |
| | 5212 Nov. 9 | 11·629 | 35·78 |
| | 5213 ,, | 11·621 | 35·78 |
| | 5214 ,, | 11·615 | 35·67 |
| | 5215 ,, | 11·652 | 35·77 |
| | 5216 ,, | 11·635 | 35·71 |
| | 5217 ,, | 11·646 | 35·71 |
| | 5218 Nov. 10 | 11·634 | 35·62 |
| | 5219 ,, | 11·636 | 35·97 |
| | 5220 ,, | 11·630 | 35·68 |
| | 5222 ,, | 11·628 | 35·61 |
| | 5223 ,, | 11·610 | 35·64 |
| | | 2 1 11·629 | +54 32 35·73 |
| 95 | 5209 Nov. 6 | 2 3 12·181 | +53 59 13·06 |
| | 5210 Nov. 7 | 12·171 | 12·97 |
| | 5211 ,, | 12·195 | 13·13 |
| | | 2 3 12·182 | +53 59 13·05 |
| 96 | 5209 Nov. 6 | 2 4 32·528 | +54 31 36·91 |
| | 5210 Nov. 7 | 32·582 | 36·88 |
| | 5211 ,, | 32·544 | 37·24 |
| | | 2 4 32·551 | +54 31 37·01 |
| | 1901. | | |
| 97 | 5339 Jan. 2 | 2 4 35·231 | +37 30 7·98 |
| | 1900. | | |
| 98 | 5210 Nov. 7 | 2 4 52·458 | +54 9 37·19 |
| | 5211 ,, | 52·427 | 37·18 |
| | | 2 4 52·443 | +54 9 37·19 |
| 99 | 5209 Nov. 6 | 2 4 52·656 | +53 34 38·67 |
| | 1901. | | |
| 100 | 5339 Jan. 2 | 2 5 31·369 | +37 43 7·39 |
| 101 | 5339 Jan. 2 | 2 8 39·928 | +37 37 23·07 |
| 102 | 5341 Jan. 4 | 2 10 3·688 | +36 12 51·66 |
| | 5342 ,, | 3·664 | 51·70 |
| | 5343 ,, | 3·669 | 51·53 |
| | 5344 Jan. 5 | (3·722) | (51·86) |
| | 5345 ,, | 3·700 | 51·68 |
| | 5346 ,, | 3·695 | 51·73 |
| | 5347 ,, | 3·682 | 51·51 |
| | 5348 ,, | 3·722 | 51·60 |
| | | 2 10 3·689 | +36 12 51·63 |
| | 1901. | h m s | ° ′ ″ |
| 103 | 5341 Jan. 4 | 2 11 8·714 | +37 1 22·36 |
| | 5342 ,, | 8·717 | 22·52 |
| | 5343 ,, | 8·713 | 22·59 |
| | | 2 11 8·715 | +37 1 22·49 |
| 104 | 5341 Jan. 4 | 2 12 46·745 | +36 13 36·61 |
| | 5342 ,, | 46·771 | 36·28 |
| | 5343 ,, | 46·776 | 36·23 |
| | 5344 Jan. 5 | (46·754) | (36·75) |
| | 5345 ,, | 46·761 | 36·39 |
| | 5346 ,, | 46·758 | 36·94 |
| | 5347 ,, | 46·764 | 36·61 |
| | 5348 ,, | 46·783 | 36·61 |
| | | 2 12 46·765 | +36 13 36·52 |
| 105 | 5341 Jan. 4 | 2 13 48·695 | +36 54 33·68 |
| | 5342 ,, | 48·721 | 33·62 |
| | 5343 ,, | 48·715 | 33·69 |
| | 5344 Jan. 5 | (48·709) | (33·55) |
| | 5345 ,, | 48·691 | 33·48 |
| | 5346 ,, | 48·708 | 33·58 |
| | 5347 ,, | 48·701 | 33·44 |
| | 5348 ,, | 48·684 | 33·71 |
| | | 2 13 48·702 | +36 54 33·60 |
| 106 | 5344 Jan. 5 | 2 14 (41·819) | +35 45 (45·90) |
| | 5345 ,, | 41·858 | 45·36 |
| | 5346 ,, | 41·841 | 45·65 |
| | 5347 ,, | 41·853 | 45·56 |
| | 5348 ,, | 41·870 | 45·90 |
| | | 2 14 41·856 | +35 45 45·62 |
| 107 | 5444 Jan. 5 | 2 14 (50·640) | +36 18 (44·26) |
| | 5345 ,, | 50·651 | 43·97 |
| | 5346 ,, | 50·641 | 44·14 |
| | 5347 ,, | 50·674 | 44·19 |
| | 5348 ,, | 50·655 | 44·18 |
| | | 2 14 50·655 | +36 18 44·12 |
| | 1900. | | |
| 108 | 5205 Oct. 29 | 2 15 35·357 | +53 36 34·93 |
| | 5206 ,, | 35·340 | 35·00 |
| | 5207 Oct. 31 | 35·320 | 34·96 |
| | 5208 ,, | 35·310 | 34·97 |
| | | 2 15 35·332 | +53 36 34·96 |
| | 1901. | | |
| 109 | 5344 Jan. 5 | 2 16 (26·703) | +35 54 (34·19) |
| | 5345 ,, | 26·725 | 33·65 |
| | 5346 ,, | 26·707 | 33·91 |
| | 5347 ,, | 26·739 | 34·16 |
| | 5348 ,, | 26·746 | 34·37 |
| | | 2 16 26·729 | +35 54 34·02 |

### TABLE VIII.—Mean Places of Comparison Stars Deduced from Photographs.

| No. | Plate No. and Date. | R.A. 1900·0. | Dec. 1900·0. |
|---|---|---|---|
| | 1901. | h m s | ° ′ ″ |
| 110 | 5344 Jan. 5 | 2 16 (49·919) | +36 18 (45·12) |
| | 5345 ,, | 49·935 | 44·69 |
| | 5346 ,, | 49·914 | 44·83 |
| | 5347 ,, | 49·930 | 45·12 |
| | 5348 ,, | 49·937 | 45·26 |
| | | 2 16 49·929 | +36 18 44·98 |
| | 1900. | | |
| 111 | 5205 Oct. 29 | 2 17 32·430 | +53 59 0·57 |
| | 5206 ,, | 32·425 | 0·61 |
| | 5207 Oct. 31 | 32·406 | 0·74 |
| | 5208 ,, | 32·427 | 0·75 |
| | | 2 17 32·422 | +53 59 0·67 |
| 112 | 5205 Oct. 29 | 2 17 50·213 | +53 27 35·80 |
| | 5206 ,, | 50·211 | 35·86 |
| | 5207 Oct. 31 | 50·199 | 35·63 |
| | 5208 ,, | 50·217 | 35·73 |
| | | 2 17 50·210 | +53 27 35·76 |
| 113 | 5205 Oct. 29 | 2 19 5·842 | +53 28 35·26 |
| | 5206 ,, | 5·834 | 35·29 |
| | 5207 Oct. 31 | 5·860 | 35·12 |
| | 5208 ,, | 5·848 | 35·25 |
| | | 2 19 5·846 | +53 28 35·23 |
| 114 | 5204 Oct. 28 | 2 20 36·209 | +53 8 34·66 |
| | 5205 Oct. 29 | 36·205 | 34·70 |
| | 5206 ,, | 36·208 | 34·51 |
| | 5207 Oct. 31 | 36·224 | 34·82 |
| | 5208 ,, | 36·224 | 34·79 |
| | | 2 20 36·214 | +53 8 34·69 |
| 115 | 5204 Oct. 28 | 2 21 34·121 | +53 38 40·25 |
| | 5205 Oct. 29 | 34·151 | 40·37 |
| | 5206 ,, | 34·163 | 40·16 |
| | 5207 Oct. 31 | 34·146 | 40·25 |
| | 5208 ,, | 34·147 | 40·38 |
| | | 2 21 34·146 | +53 38 40·28 |
| 116 | 5191 Oct. 27 | 2 21 50·963 | +53 6 14·87 |
| | 5192 ,, | 50·967 | 14·73 |
| | 5193 ,, | 50·955 | 14·90 |
| | 5200 ,, | 50·960 | 14·71 |
| | 5201 ,, | 50·974 | 14·82 |
| | 5202 ,, | 50·978 | 14·88 |
| | 5203 ,, | 50·987 | 14·84 |
| | 5204 Oct. 28 | 50·968 | 14·73 |
| | 5205 Oct. 29 | 50·975 | 14·80 |
| | 5206 ,, | 50·976 | 14·84 |
| | | 2 21 50·970 | +53 6 14·81 |
| | 1900. | h m s | ° ′ ″ |
| 117 | 5204 Oct. 28 | 2 21 52·870 | +53 39 36·31 |
| | 5205 Oct. 29 | 52·878 | 36·28 |
| | 5206 ,, | 52·873 | 36·26 |
| | 5207 Oct. 31 | 52·881 | 36·24 |
| | 5208 ,, | 52·869 | 36·49 |
| | | 2 21 52·874 | +53 39 36 32 |
| | 1901. | | |
| 118 | 5349 Jan. 8 | 2 22 21·322 | +34 56 29·62 |
| | 5350 ,, | 21·336 | 29·86 |
| | 5352 ,, | 21·332 | 29·96 |
| | 5353 Jan. 9 | 21·313 | 30·07 |
| | 5354 ,, | 21·291 | 30·04 |
| | 5355 ,, | 21·301 | 29·81 |
| | | 2 22 21·316 | +34 56 29·89 |
| 119 | 5349 Jan. 8 | 2 22 22·002 | +35 2 27·58 |
| | 5350 ,, | 21·992 | 27·16 |
| | 5351 ,, | 22·000 | 27·47 |
| | 5352 ,, | 21·987 | 27·58 |
| | 5353 Jan. 9 | 22·001 | 27·30 |
| | 5354 ,, | 21·991 | 27·30 |
| | 5355 ,, | 21·988 | 27·28 |
| | 5356 ,, | 21·998 | 27·16 |
| | | 2 22 21·995 | +35 2 27·35 |
| | 1900. | | |
| 120 | 5183 Oct. 26 | 2 22 49·568 | +53 1 46·64 |
| | 5184 ,, | 49·581 | 46·68 |
| | 5185 ,, | 49·558 | 46·65 |
| | 5186 ,, | 49·545 | 46·45 |
| | 5187 ,, | 49·549 | 46·55 |
| | 5189 ,, | 49·549 | 46·68 |
| | 5190 ,, | 49·576 | 46·61 |
| | 5191 Oct. 27 | 49·564 | 46·43 |
| | 5192 ,, | 49·571 | 46·41 |
| | 5193 ,, | 49·562 | 46·65 |
| | 5200 ,, | 49·578 | 46·26 |
| | 5201 ,, | 49·583 | 46·55 |
| | 5202 ,, | 49·583 | 46·31 |
| | 5203 ,, | 49·577 | 46·40 |
| | 5204 Oct. 28 | 49·583 | 46·49 |
| | 5205 Oct. 29 | 49·573 | 46·36 |
| | 5206 ,, | 49·580 | 46·31 |
| | | 2 22 49·569 | +53 1 46·50 |
| | 1901. | | |
| 121 | 5349 Jan. 8 | 2 23 6·732 | +34 28 34·13 |
| | 5350 ,, | 6·712 | 34·22 |
| | 5351 ,, | 6·728 | 34·32 |
| | 5352 ,, | 6·745 | 33·97 |
| | 5353 Jan. 9 | 6·727 | 34·39 |
| | 5354 ,, | 6·682 | 34·03 |
| | 5355 ,, | 6·697 | 33·80 |
| | 5356 ,, | 6·703 | 33·81 |
| | | 2 23 6·716 | +34 28 34·08 |
| | 1901. | h m s | ° ′ ″ |
| 122 | 5349 Jan. 8 | 2 23 13·925 | +34 26 41·29 |
| | 5350 ,, | 13·921 | 41·25 |
| | 5351 ,, | 13·964 | 41·30 |
| | 5352 ,, | 13·931 | 41·34 |
| | 5353 Jan. 9 | 13·941 | 41·28 |
| | 5354 ,, | 13·915 | 41·22 |
| | 5355 ,, | 13·928 | 40·89 |
| | 5356 ,, | 13·903 | 40·89 |
| | | 2 23 13·929 | +34 26 41·18 |
| | 1900. | | |
| 123 | 5183 Oct. 26 | 2 23 15·009 | +52 45 16·50 |
| | 5184 ,, | 15·042 | 16·58 |
| | 5185 ,, | 15·011 | 16·48 |
| | 5186 ,, | 15·019 | 16·15 |
| | 5187 ,, | 15·017 | 16·11 |
| | 5189 ,, | 15·041 | 16·18 |
| | 5190 ,, | 15·036 | 16·13 |
| | | 2 23 15·027 | +52 45 16·30 |
| | 1901. | | |
| 124 | 5349 Jan. 8 | 2 23 33·873 | +35 18 34·45 |
| | 5350 ,, | 33·875 | 34·37 |
| | 5351 ,, | 33·903 | 34·61 |
| | 5352 ,, | 33·886 | 34·49 |
| | 5353 Jan. 9 | 33·884 | 34·20 |
| | 5354 ,, | 33·873 | 34·26 |
| | 5355 ,, | 33·857 | 34·48 |
| | 5356 ,, | 33·887 | 34·02 |
| | | 2 23 33·880 | +35 18 34·36 |
| 125 | 5349 Jan. 8 | 2 23 34·072 | +35 4 45·98 |
| | 5351 ,, | 34·084 | 46·38 |
| | 5352 ,, | 34·046 | 46·13 |
| | 5353 Jan. 9 | 34·074 | 46·28 |
| | 5354 ,, | 34·034 | 46·41 |
| | 5355 ,, | 34·026 | 46·42 |
| | 5356 ,, | 34·072 | 46·41 |
| | | 2 23 34·058 | +35 4 46·29 |
| 126 | 5349 Jan. 8 | 2 23 35·856 | +34 5 4·20 |
| | 5350 ,, | 35·809 | 4·15 |
| | 5353 Jan. 9 | 35·847 | 4·50 |
| | 5354 ,, | 35·810 | 4·06 |
| | 5355 ,, | 35·822 | 3·86 |
| | 5356 ,, | 35·850 | 3·85 |
| | | 2 23 35·832 | +34 5 4·10 |

### TABLE VIII.—Mean Places of Comparison Stars Deduced from Photographs.

| No. | Plate No. and Date. | R.A. 1900·0. | Dec. 1900·0. |
|---|---|---|---|
| | 1900. | h m s | ° ′ ″ |
| 127 | 5191 Oct. 27 | 2 23 47·747 | +52 42 15·05 |
| | 5192 ,, | 47·762 | 14·91 |
| | 5193 ,, | 47·738 | 15·28 |
| | 5200 ,, | 47·751 | 15·07 |
| | 5201 ,, | 47·746 | 15·23 |
| | 5202 ,, | 47·726 | 15·20 |
| | 5203 ,, | 47·754 | 15·25 |
| | 5204 Oct. 28 | 47·766 | 15·16 |
| | | 2 23 47·749 | +52 42 15·14 |
| | 1901. | | |
| 128 | 5349 Jan. 8 | 2 24 9·214 | +34 14 38·61 |
| | 5350 ,, | 9·163 | 38·43 |
| | 5351 ,, | 9·192 | 38·77 |
| | 5352 ,, | 9·192 | 38·54 |
| | 5353 Jan. 9 | 9·229 | 38·33 |
| | 5354 ,, | 9·184 | 38·49 |
| | 5355 ,, | 9·210 | 38·32 |
| | 5356 ,, | 9·245 | 38·45 |
| | | 2 24 9·203 | +34 14 38·49 |
| | 1900. | | |
| 129 | 5191 Oct. 27 | 2 24 11·387 | +53 20 14·58 |
| | 5192 ,, | 11·388 | 14·48 |
| | 5193 ,, | 11·384 | 14·60 |
| | 5200 ,, | 11·401 | 14·33 |
| | 5201 ,, | 11·399 | 14·47 |
| | 5202 ,, | 11·406 | 14·55 |
| | 5203 ,, | 11·416 | 14·53 |
| | 5204 Oct. 28 | 11·394 | 14·50 |
| | 5205 Oct. 29 | 11·421 | 14·54 |
| | 5206 ,, | 11·408 | 14·41 |
| | | 2 24 11·400 | +53 20 14·50 |
| 130 | 5183 Oct. 26 | 2 24 59·000 | +52 47 48·28 |
| | 5184 ,, | 59·028 | 48·35 |
| | 5185 ,, | 59·005 | 48·28 |
| | 5186 ,, | 59·033 | 47·99 |
| | 5187 ,, | 59·011 | 47·86 |
| | 5189 ,, | 59·032 | 47·84 |
| | 5190 ,, | 59·037 | 47·96 |
| | 5191 Oct. 27 | 59·028 | 48·18 |
| | 5192 ,, | 59·051 | 47·74 |
| | 5193 ,, | 59·023 | 47·99 |
| | 5200 ,, | 59·028 | 48·04 |
| | 5201 ,, | 59·033 | 48·06 |
| | 5202 ,, | 59·017 | 47·96 |
| | 5203 ,, | 59·036 | 48·04 |
| | 5204 Oct. 28 | 59·039 | 48·19 |
| | | 2 24 59·027 | +52 47 48·05 |
| | 1900. | h m s | ° ′ ″ |
| 131 | 5183 Oct. 26 | 2 25 4·943 | +53 12 43·32 |
| | 5184 ,, | 4·969 | 43·45 |
| | 5185 ,, | 4·955 | 43·49 |
| | 5186 ,, | 4·969 | 43·19 |
| | 5187 ,, | 4·952 | 43·37 |
| | 5189 ,, | 4·964 | 43·36 |
| | 5190 ,, | 4·983 | 42·97 |
| | | 2 25 4·962 | +53 12 43·31 |
| 132 | 5183 Oct. 26 | 2 26 1·411 | +53 14 28·56 |
| | 5184 ,, | 1·427 | 28·42 |
| | 5185 ,, | 1·412 | 28·22 |
| | 5186 ,, | 1·422 | 28·05 |
| | 5187 ,, | 1·413 | 28·14 |
| | 5189 ,, | 1·437 | 28·31 |
| | 5190 ,, | 1·451 | 28·11 |
| | 5191 Oct. 27 | 1·433 | 28·36 |
| | 5192 ,, | 1·423 | 28·23 |
| | 5193 ,, | 1·439 | 28·19 |
| | 5200 ,, | 1·449 | 28·02 |
| | 5201 ,, | 1·438 | 28·05 |
| | 5202 ,, | 1·425 | 28·17 |
| | 5203 ,, | 1·438 | 28·10 |
| | 5204 Oct. 28 | 1·419 | 28·16 |
| | | 2 26 1·429 | +53 14 28·21 |
| | 1901. | | |
| 133 | 5353 Jan. 9 | 2 26 57·379 | +34 4 1·79 |
| | 5354 ,, | 57·377 | 2·02 |
| | 5355 ,, | 57·395 | 1·94 |
| | 5356 ,, | 57·393 | 1·95 |
| | | 2 26 57·386 | +34 4 1·93 |
| | 1900. | | |
| 134 | 5183 Oct. 26 | 2 27 40·965 | +52 38 51·91 |
| | 5184 ,, | 40·997 | 52·05 |
| | 5185 ,, | 40·966 | 51·82 |
| | 5186 ,, | 40·968 | 51·45 |
| | 5187 ,, | 40·960 | 51·75 |
| | 5189 ,, | 40·981 | 51·74 |
| | 5190 ,, | 40·975 | 51·58 |
| | | 2 27 40·973 | +52 38 51·76 |
| | 1901. | | |
| 135 | 5353 Jan. 9 | 2 28 17·180 | +34 25 3·62 |
| | 5354 ,, | 17·163 | 3·42 |
| | 5355 ,, | 17·156 | 3·69 |
| | 5356 ,, | 17·165 | 3·83 |
| | | 2 28 17·166 | +34 25 3·64 |
| | 1900. | h m s | ° ′ ″ |
| 136 | 5183 Oct. 26 | 2 28 20·131 | +52 38 57·57 |
| | 5184 ,, | 20·141 | 57·83 |
| | 5185 ,, | 20·102 | 57·46 |
| | 5186 ,, | 20·106 | 57·37 |
| | 5187 ,, | 20·096 | 57·46 |
| | 5189 ,, | 20·116 | 57·42 |
| | 5190 ,, | 20·075 | 57·20 |
| | | 2 28 20·110 | +52 38 57·47 |
| 137 | 5169 Oct. 20 | 2 30 51·104 | +51 39 53·57 |
| | 5172 ,, | 51·166 | 53·54 |
| | 5177 Oct. 21 | 51·088 | 53·33 |
| | 5179 ,, | 51·122 | 53·46 |
| | | 2 30 51·120 | +51 39 53·48 |
| 138 | 5169 Oct. 20 | 2 31 27·013 | +52 1 44·19 |
| | 5170 ,, | 27·033 | 44·05 |
| | 5172 ,, | 27·063 | 44·12 |
| | 5173 Oct. 21 | 27·020 | 44·40 |
| | 5174 ,, | 26·998 | 44·28 |
| | 5177 ,, | 27·028 | 44·19 |
| | 5178 ,, | 27·045 | 44·12 |
| | 5179 ,, | 27·003 | 44·02 |
| | | 2 31 27·025 | +52 1 44·17 |
| 139 | 5169 Oct. 20 | 2 32 11·271 | +51 14 41·59 |
| | 5170 ,, | 11·292 | 41·49 |
| | 5172 ,, | 11·289 | 41·71 |
| | 5173 Oct. 21 | 11·288 | 41·59 |
| | 5174 ,, | 11·277 | 41·50 |
| | 5177 ,, | 11·297 | 41·59 |
| | 5178 ,, | 11·325 | 41·75 |
| | 5179 ,, | 11·287 | 41·62 |
| | | 2 32 11·291 | +51 14 41·61 |
| 140 | 5169 Oct. 20 | 2 32 11·282 | +51 21 40·41 |
| | 5170 ,, | 11·300 | 40·40 |
| | 5172 ,, | 11·311 | 40·29 |
| | 5173 Oct. 21 | 11·278 | 40·60 |
| | 5174 ,, | 11·280 | 40·55 |
| | 5177 ,, | 11·304 | 40·28 |
| | 5178 ,, | 11·312 | 40·41 |
| | 5179 ,, | 11·328 | 40·35 |
| | | 2 32 11·300 | +51 21 40·41 |

TABLE VIII.—Mean Places of Comparison Stars Deduced from Photographs.

| No. | Plate No. and Date. | R.A. 1900·0. | Dec. 1900·0. |
|---|---|---|---|
| | 1900. | h m s | ° ′ ″ |
| 141 | 5169 Oct. 20 | 2 32 30·677 | +51 36 59·16 |
| | 5170 ,, | 30·686 | 59·08 |
| | 5172 ,, | 30·702 | 59·32 |
| | 5173 Oct. 21 | 30·680 | 59·38 |
| | 5174 ,, | 30·672 | 59·05 |
| | 5177 ,, | 30·682 | 59·17 |
| | 5178 ,, | 30·714 | 58·94 |
| | 5179 ,, | 30·691 | 58·86 |
| | | 2 32 30·688 | +51 36 59·12 |
| 142 | 5172 Oct. 20 | 2 34 1·310 | +51 56 47·95 |
| | 5173 Oct. 21 | 1·283 | 48·10 |
| | 5174 ,, | 1·278 | 48·13 |
| | 5177 ,, | 1·276 | 47·94 |
| | 5178 ,, | 1·291 | 47·81 |
| | 5179 ,, | 1·292 | 47·81 |
| | | 2 34 1·288 | +51 56 47·96 |
| 143 | 5173 Oct. 21 | 2 34 15·976 | +51 5 2·03 |
| | 5174 ,, | 15·975 | 1·98 |
| | 5177 ,, | 15·986 | 2·21 |
| | 5178 ,, | 16·006 | 2·22 |
| | 5179 ,, | 15·965 | 2·00 |
| | | 2 34 15·982 | +51 5 2·09 |
| 144 | 5169 Oct. 20 | 2 34 24·146 | +51 7 17·47 |
| | 5170 ,, | 24·136 | 17·32 |
| | 5172 ,, | 24·155 | 17·23 |
| | | 2 34 24·146 | +51 7 17·34 |
| 145 | 5169 Oct. 20 | 2 35 26·936 | +51 40 29·42 |
| | 5170 ,, | 26·955 | 29·27 |
| | 5172 ,, | 26·953 | 29·26 |
| | 5173 Oct. 21 | 26·949 | 29·31 |
| | 5174 ,, | 26·928 | 29·39 |
| | 5177 ,, | 26·948 | 29·15 |
| | 5179 ,, | 26·936 | 29·04 |
| | | 2 35 26·944 | +51 40 29·26 |
| 146 | 5169 Oct. 20 | 2 35 39·050 | +51 20 33·90 |
| | 5170 ,, | 39·059 | 33·98 |
| | 5172 ,, | 39·056 | 33·94 |
| | 5173 Oct. 21 | 39·064 | 33·87 |
| | 5174 ,, | 39·050 | 33·85 |
| | 5177 ,, | 39·043 | 33·95 |
| | 5178 ,, | 39·055 | 33·58 |
| | 5179 ,, | 39·048 | 34·05 |
| | | 2 35 39·053 | +51 20 33·89 |
| | 1901. | | |
| 147 | 5359 Jan. 13 | 2 36 40·471 | +32 53 45·85 |
| | 1901. | h m s | ° ′ ″ |
| 148 | 5365 Jan. 14 | 2 37 54·449 | +32 38 9·51 |
| | 5366 ,, | 54·487 | 9·36 |
| | 5367 ,, | 54·499 | 9·32 |
| | | 2 37 54·478 | +32 38 9·40 |
| 149 | 5359 Jan. 13 | 2 37 57·064 | +33 1 59·92 |
| | 1900. | | |
| 150 | 5160 Oct. 14 | 2 38 37·494 | +49 49 56·84 |
| | 5161 ,, | 37·482 | 56·93 |
| | 5162 Oct. 15 | 37·495 | 56·91 |
| | | 2 38 37·490 | +49 49 56·89 |
| 151 | 5160 Oct. 14 | 2 38 46·322 | +49 31 49·17 |
| | 5161 ,, | 46·320 | 49·37 |
| | | 2 38 46·321 | +49 31 49·27 |
| 152 | 5160 Oct. 14 | 2 39 7·501 | +49 7 7·70 |
| | 5161 ,, | 7·489 | 7·64 |
| | 5162 Oct. 15 | 7·514 | 7·79 |
| | | 2 39 7·501 | +49 7 7·71 |
| | 1901. | | |
| 153 | 5359 Jan. 13 | 2 39 20·769 | +32 41 33·91 |
| | 5365 Jan. 14 | 20·736 | 34·06 |
| | 5366 ,, | 20·768 | 33·87 |
| | 5367 ,, | 20·779 | 33·88 |
| | | 2 39 20·763 | +32 41 33·93 |
| | 1900. | | |
| 154 | 5160 Oct. 14 | 2 40 1·635 | +49 47 57·98 |
| | 5161 ,, | 1·614 | 57·95 |
| | 5162 Oct. 15 | 1·630 | 58·06 |
| | | 2 40 1·626 | +49 47 58·00 |
| | 1901. | | |
| 155 | 5359 Jan. 13 | 2 40 15·836 | +32 12 10·74 |
| | 5365 Jan. 14 | 15·823 | 10·67 |
| | 5367 ,, | 15·831 | 10·84 |
| | 5368 Jan. 15 | 15·845 | 11·07 |
| | 5369 ,, | 15·850 | 10·99 |
| | 5371 ,, | 15·843 | 11·10 |
| | | 2 40 15·838 | +32 12 10·90 |
| | 1900. | h m s | ° ′ ″ |
| 156 | 5142 Oct. 7 | 2 40 48·916 | +47 28 47·79 |
| | 5143 ,, | 48·947 | 47·97 |
| | 5145 ,, | 48·912 | 47·92 |
| | 5146 ,, | 48·912 | 48·00 |
| | 5148 Oct. 8 | 48·929 | 48·10 |
| | 5150 ,, | 48·955 | 48·30 |
| | 5152 ,, | 48·903 | 47·62 |
| | 5154 Oct. 10 | 48·909 | 47·65 |
| | | 2 40 48·923 | +47 28 47·92 |
| 157 | 5148 Oct. 8 | 2 40 50·996 | +48 3 54·83 |
| | 5150 ,, | 50·970 | 54·46 |
| | 5152 ,, | 50·957 | 54·45 |
| | 5154 Oct. 10 | 50·963 | 54·87 |
| | | 2 40 50·972 | +48 3 54·65 |
| 158 | 5154 Oct. 10 | 2 40 52·107 | +48 47 59·36 |
| | 5160 Oct. 14 | 52·140 | 59·63 |
| | 5161 ,, | 52·128 | 59·45 |
| | | 2 40 52·125 | +48 47 59·48 |
| | 1901. | | |
| 159 | 5359 Jan. 13 | 2 40 55·336 | +32 36 51·02 |
| | 5365 Jan. 14 | 55·324 | 51·30 |
| | 5366 ,, | 55·329 | 51·20 |
| | 5367 ,, | 55·327 | 51·13 |
| | 5368 Jan. 15 | 55·342 | 51·10 |
| | 5369 ,, | 55·367 | 50·89 |
| | 5371 ,, | 55·341 | 51·16 |
| | | 2 40 55·338 | +32 36 51·11 |
| 160 | 5359 Jan. 13 | 2 40 57·640 | +32 7 29·77 |
| | 5365 Jan. 14 | 57·625 | 29·27 |
| | 5366 ,, | 57·646 | 29·41 |
| | 5367 ,, | 57·651 | 29·44 |
| | 5368 Jan. 15 | 57·635 | 29·72 |
| | 5369 ,, | 57·637 | 29·69 |
| | 5371 ,, | 57·622 | 29·87 |
| | | 2 40 57·637 | +32 7 29·60 |
| | 1900. | | |
| 161 | 5154 Oct. 10 | 2 41 8·051 | +48 22 20·39 |
| 162 | 5160 Oct. 14 | 2 41 26·342 | +48 51 22·85 |
| 163 | 5160 Oct. 14 | 2 41 31·909 | +49 27 51·77 |
| | 5161 ,, | 31·918 | 51·77 |
| | 5162 Oct. 15 | 31·931 | 51·57 |
| | | 2 41 31·919 | +49 27 51·70 |

### TABLE VIII.—Mean Places of Comparison Stars Deduced from Photographs.

| No. | Plate No. and Date. | R.A. 1900·0. | Dec. 1900·0. |
|---|---|---|---|
| | 1900. | h m s | ° ′ ″ |
| 164 | 5134 Oct. 3 | 2 41 35·928 | +46 14 46·27 |
| | 5138 Oct. 4 | 35·933 | 46·73 |
| | 5139 ,, | 35·909 | 46·45 |
| | 5141 Oct. 5 | (35·979) | (46·63) |
| | 5142 Oct. 7 | 35·912 | 46·34 |
| | 5143 ,, | 35·940 | 46·30 |
| | 5145 ,, | 35·949 | 46·42 |
| | 5146 ,, | 35·954 | 46·18 |
| | | 2 41 35·932 | +46 14 46·38 |
| 165 | 5138 Oct. 4 | 2 41 58·797 | +46 45 51·14 |
| | 5139 ,, | 58·774 | 51·15 |
| | 5141 Oct. 5 | (58·790) | (51·27) |
| | 5142 Oct. 7 | 58·767 | 51·46 |
| | 5143 ,, | 58·778 | 51·51 |
| | 5145 ,, | 58·773 | 51·27 |
| | 5146 ,, | 58·756 | 51·38 |
| | 5148 Oct. 8 | 58·789 | 51·19 |
| | 5150 ,, | 58·784 | 51·15 |
| | 5152 ,, | 58·769 | 51·22 |
| | | 2 41 58·776 | +46 45 51·27 |
| 166 | 5126 Oct. 1 | 2 41 59·308 | +45 15 39·08 |
| | 5129 Oct. 2 | 59·317 | 39·07 |
| | 5130 ,, | 59·315 | 39·09 |
| | 5131 ,, | 59·319 | 39·05 |
| | 5133 ,, | 59·308 | 39·19 |
| | 5134 Oct. 3 | 59·333 | 39·12 |
| | 5138 Oct. 4 | 59·303 | (38·64) |
| | 5139 ,, | 59·330 | 39·10 |
| | | 2 41 59·317 | +45 15 39·10 |
| | 1901. | | |
| 167 | 5359 Jan. 13 | 2 42 2·198 | +32 16 22·30 |
| | 5365 Jan. 14 | 2·207 | 22·15 |
| | 5366 ,, | 2·214 | 22·09 |
| | 5367 ,, | 2·221 | 22·07 |
| | 5368 Jan. 15 | 2·194 | 22·34 |
| | 5369 ,, | 2·199 | 22·16 |
| | 5371 ,, | 2·203 | 22·23 |
| | 5372 ,, | 2·199 | 22·39 |
| | | 2 42 2·204 | +32 16 22·22 |
| | 1900. | | |
| 168 | 5160 Oct. 14 | 2 42 5·925 | +49 43 56·08 |
| | 5161 ,, | 5·908 | 56·13 |
| | 5162 Oct. 15 | 5·919 | 56·30 |
| | | 2 42 5·917 | +49 43 56·17 |
| 169 | 5134 Oct. 3 | 2 42 9·215 | +45 55 1·27 |
| | 5138 Oct. 4 | 9·184 | 1·24 |
| | 5139 ,, | 9·213 | 1·27 |
| | 5141 Oct. 5 | (9·210) | (1·53) |
| | | 2 42 9·204 | +45 55 1·26 |
| | 1900. | h m s | ° ′ ″ |
| 170 | 5142 Oct. 7 | 2 42 16·889 | +47 18 11·82 |
| | 5143 ,, | 16·877 | 11·97 |
| | 5145 ,, | 16·890 | 11·91 |
| | 5146 ,, | 16·907 | 12·03 |
| | 5148 Oct. 8 | 16·884 | 11·97 |
| | 5150 ,, | 16·882 | 11·79 |
| | 5152 ,, | 16·910 | (11·36) |
| | | 2 42 16·891 | +47 18 11·92 |
| 171 | 5126 Oct. 1 | 2 42 27·297 | +44 42 22·76 |
| | 5129 Oct. 2 | 27·289 | 22·57 |
| | 5130 ,, | 27·298 | 22·46 |
| | 5131 ,, | 27·282 | 22·42 |
| | 5133 ,, | 27·309 | 22·86 |
| | | 2 42 27·295 | +44 42 22·61 |
| 172 | 5126 Oct. 1 | 2 42 30·147 | +44 54 55·66 |
| | 5129 Oct. 2 | 30·164 | 55·48 |
| | 5130 ,, | 30·167 | 55·46 |
| | 5131 ,, | 30·150 | 55·41 |
| | 5133 ,, | 30·139 | 55·49 |
| | 5134 Oct. 3 | 30·158 | 55·70 |
| | | 2 42 30·154 | +44 54 55·53 |
| | 1901. | | |
| 173 | 5359 Jan. 13 | 2 42 30·790 | +32 41 35·26 |
| | 5365 Jan. 14 | 30·826 | 35·35 |
| | 5366 ,, | 30·823 | 35·16 |
| | 5367 ,, | 30·838 | 35·26 |
| | 5368 Jan. 15 | 30·816 | 35·09 |
| | 5369 ,, | 30·812 | 35·32 |
| | 5371 ,, | 30·810 | 35·35 |
| | 5372 ,, | 30·788 | 34·99 |
| | | 2 42 30·813 | +32 41 35·22 |
| | 1900. | | |
| 174 | 5142 Oct. 7 | 2 42 35·090 | +47 49 28·70 |
| | 5143 ,, | 35·093 | 28·66 |
| | 5145 ,, | 35·048 | 28·62 |
| | 5146 ,, | 35·067 | 28·58 |
| | 5148 Oct. 8 | 35·083 | 28·53 |
| | 5150 ,, | 35·076 | 28·69 |
| | 5152 ,, | 35·071 | 28·49 |
| | 5154 Oct. 10 | 35·082 | 28·67 |
| | | 2 42 35·076 | +47 49 28·62 |
| | 1901. | | |
| 175 | 5365 Jan. 14 | 2 43 14·839 | +31 35 27·06 |
| | 5366 ,, | 14·822 | 27·03 |
| | 5367 ,, | 14·815 | 27·16 |
| | 5368 Jan. 15 | 14·793 | 27·26 |
| | 5369 ,, | 14·800 | 27·31 |
| | 5371 ,, | 14·803 | 27·21 |
| | 5372 ,, | 14·825 | 27·14 |
| | | 2 43 14·814 | +31 35 27·17 |
| | 1900. | h m s | ° ′ ″ |
| 176 | 5160 Oct. 14 | 2 43 26·467 | +49 19 19·70 |
| | 5161 ,, | 26·465 | 19·81 |
| | 5162 Oct. 15 | 26·481 | 19·74 |
| | | 2 43 26·471 | +49 19 19·75 |
| 177 | 5126 Oct. 1 | 2 43 27·909 | +45 35 15·51 |
| | 5129 Oct. 2 | 27·929 | 15·85 |
| | 5130 ,, | 27·906 | 15·64 |
| | 5131 ,, | 27·913 | 15·82 |
| | 5133 ,, | 27·904 | 15·81 |
| | 5134 Oct. 3 | 27·912 | 15·68 |
| | 5138 Oct. 4 | 27·904 | 15·44 |
| | 5139 ,, | 27·924 | 15·80 |
| | 5141 Oct. 5 | (27·899) | (16·42) |
| | | 2 43 27·913 | 45 35 15·70 |
| | 1901. | | |
| 178 | 5365 Jan. 14 | 2 43 44·968 | +31 33 40·11 |
| | 5366 ,, | 44·977 | 40·17 |
| | 5367 ,, | 44·965 | 40·44 |
| | 5368 Jan. 15 | 44·973 | 39·97 |
| | 5369 ,, | 44·975 | 40·17 |
| | 5371 ,, | 44·976 | 40·32 |
| | 5372 ,, | 44·954 | 40·34 |
| | | 2 43 44·970 | +31 33 40·22 |
| | 1900. | | |
| 179 | 5142 Oct. 7 | 2 43 50·658 | +47 45 38·28 |
| | 5143 ,, | 50·649 | 38·13 |
| | 5145 ,, | 50·626 | 38·27 |
| | 5146 ,, | 50·665 | 38·27 |
| | 5148 Oct. 8 | 50·674 | 38·32 |
| | 5150 ,, | 50·686 | 38·08 |
| | 5152 ,, | 50·655 | 37·93 |
| | 5154 Oct. 10 | 50·673 | 38·24 |
| | | 2 43 50·661 | +47 45 38·19 |
| | 1901. | | |
| 180 | 5365 Jan. 14 | 2 44 6·309 | +32 8 37·61 |
| | 5366 ,, | 6·318 | 37·83 |
| | 5367 ,, | 6·304 | 37·68 |
| | 5368 Jan. 15 | 6·298 | 37·80 |
| | 5369 ,, | 6·300 | 37·91 |
| | 5372 ,, | 6·322 | 37·49 |
| | | 2 44 6·309 | +32 8 37·72 |
| | 1900. | | |
| 181 | 5154 Oct. 10 | 2 44 29·149 | +48 21 44·06 |

TABLE VIII.—Mean Places of Comparison Stars Deduced from Photographs.

| No. | Plate No. and Date. | R.A. 1900·0. | Dec. 1900·0. |
|---|---|---|---|
| | 1900. | h m s | ° ′ ″ |
| 182 | 5126 Oct. 1 | 2 44 44·095 | +45 32 32·23 |
| | 5129 Oct. 2 | 44·092 | 32·19 |
| | 5130 ,, | 44·099 | 32·07 |
| | 5131 ,, | 44·096 | 32·47 |
| | 5133 ,, | 44·093 | 32·22 |
| | 5134 Oct. 3 | 44·096 | 32·06 |
| | 5138 Oct. 4 | 44·109 | 32·03 |
| | 5139 ,, | 44·114 | 32·34 |
| | 5141 Oct. 5 | (44·074) | (32·67) |
| | | 2 44 44·099 | +45 32 32·20 |
| 183 | 5138 Oct. 4 | 2 44 45·495 | +46 41 58·03 |
| | 5139 ,, | 45·434 | 57·84 |
| | 5141 Oct. 5 | (45·435) | (57·46) |
| | 5142 Oct. 7 | 45·466 | 57·58 |
| | 5143 ,, | 45·440 | 57·70 |
| | 5145 ,, | 45·470 | 57·61 |
| | 5146 ,, | 45·476 | 57·63 |
| | 5148 Oct. 8 | 45·452 | 57·32 |
| | 5150 ,, | 45·484 | 57·41 |
| | 5152 ,, | 45·462 | 57·37 |
| | | 2 44 45·464 | +46 41 57·61 |
| 184 | 5126 Oct. 1 | 2 44 54·867 | +45 13 59·28 |
| | 5129 Oct. 2 | 54·856 | 59·09 |
| | 5130 ,, | 54·861 | 59·23 |
| | 5131 ,, | 54·865 | 59·37 |
| | 5133 ,, | 54·851 | 59·23 |
| | 5134 Oct. 3 | 54·877 | 59·42 |
| | 5138 Oct. 4 | 54·880 | 58·99 |
| | 5139 ,, | 54·863 | 59·28 |
| | | 2 44 54·865 | +45 13 59·24 |
| 185 | 5148 Oct. 8 | 2 44 58·803 | +48 8 24·06 |
| | 5150 ,, | 58·800 | 24·54 |
| | 5152 ,, | 58·737 | 24·47 |
| | 5154 Oct. 10 | 58·754 | 24·50 |
| | | 2 44 58·774 | +48 8 24·39 |
| 186 | 5134 Oct. 3 | 2 45 35·456 | +46 21 54·85 |
| | 5138 Oct. 4 | 35·452 | 55·30 |
| | 5139 ,, | 35·438 | 55·24 |
| | (5141) Oct. 5 | (35·433) | (55·47) |
| | 5142 Oct. 7 | 35·454 | 54·98 |
| | 5143 ,, | 35·438 | 55·33 |
| | 5145 ,, | 35·457 | 54·95 |
| | 5146 ,, | 35·448 | 55·06 |
| | | 2 45 35·449 | +46 21 55·10 |
| | 1900. | h m s | ° ′ ″ |
| 187 | (5141) Oct. 5 | 2 45 (36·597) | +46 59 (32·74) |
| | 5142 Oct. 7 | 36·641 | 33·31 |
| | 5143 ,, | 36·650 | 33·41 |
| | 5145 ,, | 36·650 | 33·49 |
| | 5146 ,, | 36·654 | 33·30 |
| | 5148 Oct. 8 | 36·675 | 33·10 |
| | 5150 ,, | 36·662 | 33·03 |
| | 5152 ,, | 36·664 | 33·19 |
| | | 2 45 36·657 | +46 59 33·26 |
| 188 | 5126 Oct. 1 | 2 45 37·845 | +45 4 58·28 |
| | 5129 Oct. 2 | 37·828 | 58·26 |
| | 5130 ,, | 37·845 | 58·11 |
| | 5131 ,, | 37·883 | 58·12 |
| | 5133 ,, | 37·877 | 57·87 |
| | 5134 Oct. 3 | 37·827 | 58·02 |
| | | 2 45 37·851 | +45 4 58·11 |
| | 1901. | | |
| 189 | 5365 Jan. 14 | 2 45 52·162 | +31 55 55·72 |
| | 5366 ,, | 52·153 | 55·64 |
| | 5367 ,, | 52·129 | 55·82 |
| | 5368 Jan. 15 | 52·163 | 55·62 |
| | 5369 ,, | 52·168 | 55·64 |
| | 5371 ,, | 52·157 | 55·80 |
| | 5372 ,, | 52·182 | 55·97 |
| | | 2 45 52·159 | +31 55 55·74 |
| 190 | 5367 Jan. 14 | 2 46 7·458 | +32 3 6·26 |
| | 5368 Jan. 15 | 7·492 | 6·49 |
| | 5369 ,, | 7·505 | 6·54 |
| | 5371 ,, | 7·495 | 6·59 |
| | | 2 46 7·488 | +32 3 6·47 |
| | 1900. | | |
| 191 | 5134 Oct. 3 | 2 46 23·460 | +46 2 4·79 |
| | 5138 Oct. 4 | 23·430 | 5·11 |
| | 5139 ,, | 23·426 | 5·04 |
| | 5141 Oct. 5 | (23·439) | (5·15) |
| | | 2 46 23·439 | +46 2 4·98 |
| | 1901. | | |
| 192 | 5379 Jan. 17 | 2 50 29·477 | +31 32 48·68 |
| 193 | 5379 Jan. 17 | 2 52 3·815 | +30 38 43·63 |
| 194 | 5379 Jan. 17 | 2 52 27·816 | +30 57 20·95 |
| 195 | 5379 Jan. 17 | 2 54 5·408 | +31 1 38·11 |
| 196 | 5387 Jan. 23 | 3 9 9·005 | +28 40 38·37 |
| | 1901. | h m s | ° ′ ″ |
| 197 | 5387 Jan. 23 | 3 10 26·466 | +28 55 29·78 |
| 198 | 5390 Jan. 24 | 3 13 18·800 | +28 21 17·30 |
| 199 | 5390 Jan. 24 | 3 14 10·659 | +27 57 38·67 |
| 200 | 5390 Jan. 24 | 3 14 43·739 | +27 52 1·95 |
| 201 | 5390 Jan. 24 | 3 16 21·078 | +28 25 11·17 |
| 202 | 5390 Jan. 24 | 3 16 22·538 | +27 59 47·85 |
| 203 | 5393 Jan. 29 | 3 31 23·426 | +26 12 32·00 |
| 204 | 5393 Jan. 29 | 3 32 34·984 | +26 23 16·07 |
| 205 | 5393 Jan. 29 | 3 34 56·021 | +26 0 4·92 |
| 206 | 5394 Feb. 1 | 3 43 52·219 | +25 20 35·42 |
| 207 | 5394 Feb. 1 | 3 44 35·784 | +24 29 15·98 |
| 208 | 5394 Feb. 1 | 3 45 7·258 | +25 6 21·39 |
| 209 | 5394 Feb. 1 | 3 45 51·606 | +24 47 49·32 |
| 210 | 5397 Feb. 3 | 3 49 57·896 | +24 4 12·38 |
| | 5398 ,, | 57·888 | 12·65 |
| | | 3 49 57·892 | +24 4 12·52 |
| 211 | 5397 Feb. 3 | 3 50 6·874 | +24 30 7·34 |
| | 5398 ,, | 6·911 | 7·43 |
| | | 3 50 6·893 | +24 30 7·38 |
| 212 | 5397 Feb. 3 | 3 52 27·457 | +24 24 17·96 |
| | 5398 ,, | 27·451 | 18·21 |
| | | 3 52 27·454 | +24 24 18·09 |
| 213 | 5397 Feb. 3 | 3 52 37·293 | +24 4 28·92 |
| | 5398 ,, | 37·298 | 29·52 |
| | | 3 52 37·296 | +24 4 29·22 |

TABLE VIII.—Mean Places of Comparison Stars Deduced from Photographs.

| No. | Plate No. and Date. | R.A. 1900·0. | Dec. 1900·0. |
|---|---|---|---|
| | 1901. | h m s | ° ′ ″ |
| 214 | 5397 Feb. 3 | 3 52 38·965 | +23 24 16·69 |
| | 5398 ,, | 38·926 | 16·86 |
| | | 3 52 38·946 | +23 24 16·78 |
| 215 | 5404 Feb. 5 | 3 57 47·128 | +23 20 39·70 |
| 216 | 5404 Feb. 5 | 3 58 13·153 | +23 8 5·62 |
| 217 | 5407 Feb. 6 | 4 0 21·989 | +22 34 1·90 |
| 218 | 5407 Feb. 6 | 4 2 3·600 | +22 40 3·49 |
| 219 | 5407 Feb. 6 | 4 2 26·337 | +23 7 58·50 |
| 220 | 5407 Feb. 6 | 4 3 31·582 | +23 1 47·03 |
| 221 | 5407 Feb. 6 | 4 4 26·355 | +22 34 19·56 |
| 222 | 5408 Feb. 11 | 4 18 (52·095) | +21 11 (26·16) |
| | 5409 ,, | 52·064 | 26·08 |
| | 5412 ,, | 52·074 | 26·00 |
| | 5413 ,, | (52·076) | (25·95) |
| | | 4 18 52·069 | +21 11 26·04 |
| 223 | 5408 Feb. 11 | 4 18 (54·702) | +20 52 (29·65) |
| | 5409 ,, | 54·700 | 29·81 |
| | 5412 ,, | 54·690 | 29·77 |
| | 5413 ,, | (54·675) | (29·74) |
| | | 4 18 54·695 | +20 52 29·79 |
| 224 | 5408 Feb. 11 | 4 20 (53·276) | +20 41 (25·53) |
| | 5409 ,, | 53·249 | 25·52 |
| | 5412 ,, | 53·257 | 25·49 |
| | 5413 ,, | (53·264) | (25·71) |
| | 5414 Feb. 12 | 53·241 | 25·49 |
| | 5415 ,, | 53·237 | 25·48 |
| | 5416 ,, | 53·265 | 25·49 |
| | | 4 20 53·249 | +20 41 25·49 |
| 225 | 5408 Feb. 11 | 4 22 (30·572) | +20 39 (13·08) |
| | 5409 ,, | 30·566 | 13·23 |
| | 5412 ,, | 30·569 | 13·05 |
| | 5413 ,, | (30·533) | (13·38) |
| | 5414 Feb. 12 | 30·576 | 13·04 |
| | 5415 ,, | 30·561 | 13·11 |
| | 5416 ,, | 30·574 | 13·03 |
| | | 4 22 30·569 | +20 39 13·09 |
| | 1901. | h m s | ° ′ ″ |
| 226 | 5408 Feb. 11 | 4 22 (31·915) | +20 49 (7·23) |
| | 5409 ,, | 31·855 | 7·39 |
| | 5412 ,, | 31·863 | 7·22 |
| | 5413 ,, | (31·834) | (7·33) |
| | 5414 Feb. 12 | 31·873 | 7·10 |
| | 5415 ,, | 31·867 | 7·20 |
| | 5416 ,, | 31·861 | 7·19 |
| | | 4 22 31·864 | +20 49 7·22 |
| 227 | 5408 Feb. 11 | 4 23 (14·165) | +20 28 (44·07) |
| | 5409 ,, | 14·107 | 44·20 |
| | 5412 ,, | 14·123 | 43·92 |
| | 5413 ,, | (14·081) | (44·50) |
| | 5414 Feb. 12 | 14·089 | 44·00 |
| | 5415 ,, | 14·130 | 43·97 |
| | | 4 23 14·112 | +20 28 44·02 |
| 228 | 5408 Feb. 11 | 4 24 (27·879) | +20 46 (42·06) |
| | 5412 ,, | 27·851 | 41·86 |
| | 5413 ,, | (27·800) | (43·33) |
| | 5414 Feb. 12 | 27·800 | 42·24 |
| | 5415 ,, | 27·859 | 42·01 |
| | 5416 ,, | 27·834 | 42·19 |
| | | 4 24 27·836 | +20 46 42·07 |
| 229 | 5408 Feb. 11 | 4 24 (33·319) | +20 19 (47·13) |
| | 5409 ,, | 33·295 | 47·39 |
| | 5412 ,, | 33·297 | 47·03 |
| | 5413 ,, | (33·250) | (47·66) |
| | 5414 Feb. 12 | 33·304 | 46·96 |
| | 5415 ,, | 33·331 | 46·93 |
| | 5416 ,, | 33·324 | 46·95 |
| | 5420 Feb. 13 | 33·328 | 46·84 |
| | 5421 ,, | 33·302 | 46·77 |
| | 5422 ,, | 33·324 | 46·80 |
| | 5426 ,, | 33·287 | 46·96 |
| | 5427 ,, | 33·331 | 46·60 |
| | | 4 24 33·312 | +20 19 46·92 |
| 230 | 5414 Feb. 12 | 4 26 49·811 | +19 55 22·23 |
| | 5415 ,, | 49·831 | 22·06 |
| | 5416 ,, | 49·828 | 22·27 |
| | 5420 Feb. 13 | 49·840 | 21·91 |
| | 5421 ,, | 49 837 | 21·77 |
| | 5422 ,, | 49·829 | 21·79 |
| | 5426 ,, | 49·838 | 21·92 |
| | 5427 ,, | 49·849 | 21·67 |
| | | 4 26 49·833 | +19 55 21·95 |
| | 1901. | h m s | ° ′ ″ |
| 231 | 5421 Feb. 13 | 4 27 34·226 | +20 20 37·34 |
| | 5426 ,, | 34·228 | 37·53 |
| | 5427 ,, | 34·243 | 37·34 |
| | | 4 27 34·232 | +20 20 37·40 |
| 232 | 5416 Feb. 12 | 4 28 22·950 | +20 17 42·07 |
| | 5420 Feb. 13 | 22 971 | 41·65 |
| | 5421 ,, | 22·986 | 41·59 |
| | 5422 ,, | 22·989 | 41·48 |
| | 5426 ,, | 22·975 | 41·66 |
| | 5427 ,, | 22·965 | 41·60 |
| | 5428 Feb. 14 | 23·007 | 41·56 |
| | | 4 28 22·978 | +20 17 41·66 |
| 233 | 5420 Feb. 13 | 4 28 40·992 | +20 7 5·14 |
| | 5421 ,, | 40·991 | 4·97 |
| | 5422 ,, | 40·992 | 4·72 |
| | 5426 ,, | 41·008 | 4·96 |
| | 5427 ,, | 40·994 | 5·02 |
| | 5428 Feb. 14 | 41·021 | 4·77 |
| | | 4 28 41·000 | +20 7 4·93 |
| 234 | 5421 Feb. 13 | 4 29 49·427 | +20 16 19·29 |
| | 5422 ,, | 49·444 | 18·92 |
| | 5427 ,, | 49·425 | 18·90 |
| | 5428 Feb. 14 | 49·442 | 18·68 |
| | | 4 29 49·435 | +20 16 18·95 |
| 235 | 5428 Feb. 14 | 4 31 18·285 | +20 19 20·69 |
| 236 | 5428 Feb. 14 | 4 32 12·683 | +19 19 52·95 |
| | 5429 Feb. 15 | 12·686 | 52·95 |
| | 5430 ,, | 12·683 | 52·94 |
| | 5431 ,, | 12·696 | 52·92 |
| | | 4 32 12·687 | +19 19 52·94 |
| 237 | 5428 Feb. 14 | 4 33 10·059 | +20 2 51·95 |
| | 5429 Feb. 15 | 10·085 | 51·42 |
| | 5430 ,, | 10·062 | 51·79 |
| | | 4 33 10·069 | +20 2 51·72 |

## TABLE VIII.—Mean Places of Comparison Stars Deduced from Photographs.

| No. | Plate No. and Date. | R.A. 1900·0. | Dec. 1900·0. | No. | Plate No. and Date. | R.A. 1900·0. | Dec. 1900·0. | No. | Plate No. and Date. | R.A. 1900·0. | Dec. 1900·0. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1901. | h m s | ° ′ ″ | | 1901. | h m s | ° ′ ″ | | 1901. | h m s | ° ′ ″ |
| 238 | 5429 Feb. 15 | 4 33 35·632 | +19 22 15·33 | 240 | 5434 Feb. 17 | 4 44 57·237 | +18 9 8·01 | 243 | 5436 Feb. 20 | 4 54 7·185 | +18 2 33·61 |
| | 5430 ,, | 35·632 | 15·31 | | | | | | 5438 ,, | 7·183 | 33·65 |
| | 5431 ,, | 35·619 | 15·12 | | | | | | 5441 ,, | 7·202 | 33·63 |
| | | 4 33 35·628 | +19 22 15·25 | 241 | 5436 Feb. 20 | 4 52 39·232 | +17 22 55·81 | | | 4 54 7·190 | +18 2 33·63 |
| | | | | | 5438 ,, | 39·212 | 55·68 | | | | |
| | | | | | 5441 ,, | 39·232 | 55·59 | | | | |
| | | | | | | 4 52 39·225 | +17 22 55·69 | | | | |
| 239 | 5428 Feb. 14 | 4 34 58·907 | +19 51 34·19 | | | | | | | | |
| | 5429 Feb. 15 | 58·936 | 33·94 | 242 | 5436 Feb. 20 | 4 52 56·399 | +17 50 6·11 | 244 | 5436 Feb. 20 | 4 55 11·432 | +17 22 19·60 |
| | 5430 ,, | 58·914 | 33·87 | | 5438 ,, | 56·416 | 6·02 | | 5438 ,, | 11·454 | 19·57 |
| | 5431 ,, | 58·913 | 33·95 | | 5441 ,, | 56 399 | 6·11 | | 5441 ,, | 11·452 | 19·31 |
| | | 4 34 58·918 | +19 51 33·99 | | | 4 52 56·405 | +17 50 6·08 | | | 4 55 11·446 | +17 22 19·49 |

TABLE IX.—Adopted Places of Comparison Stars.

| No. | R.A. 1900·0. | Dec. 1900·0. | No. | R.A. 1900·0. | Dec. 1900·0. | No. | R.A. 1900·0. | Dec. 1900·0. |
|---|---|---|---|---|---|---|---|---|
| | h m s | ° ′ ″ | | h m s | ° ′ ″ | | h m s | ° ′ ″ |
| 1 | 1 24 4·485 | +48 3 1·25 | 55 | 1 42 4·134 | +53 48 23·31 | 105 | 2 13 48·702 | +36 54 33·60 |
| 47° 429 | 1 24 33·544 | 47 22 50·04 | 56 | 1 42 10·055 | 42 49 25·30 | 106 | 2 14 41·856 | 35 45 45·62 |
| 46° 373 | 1 24 47·948 | 47 3 4·57 | 57 | 1 42 14·247 | 42 17 1·67 | 107 | 2 14 50·655 | 36 18 44·12 |
| 2 | 1 24 48·402 | 48 46 25·03 | 58 | 1 43 15·453 | 42 32 13·99 | 36° 464 | 2 14 57·592 | 36 36 45·08 |
| 3 | 1 24 53·559 | 47 54 12·79 | 59 | 1 43 47·136 | 53 40 13·45 | 108 | 2 15 35·332 | 53 36 34·96 |
| 4 | 1 25 9·786 | 47 2 42·93 | 60 | 1 44 33·018 | 54 14 5·39 | 109 | 2 16 26·729 | 35 54 34·02 |
| 5 | 1 25 26·350 | 48 16 17·71 | 61 | 1 45 19·261 | 54 14 28·79 | 110 | 2 16 49·929 | 36 18 44·98 |
| 6 | 1 26 7·359 | 47 12 36·03 | 62 | 1 46 58·024 | 54 15 7·09 | 111 | 2 17 32·422 | 53 59 0·67 |
| 47° 442 | 1 26 16·890 | 47 54 13·10 | 63 | 1 46 58·993 | 53 54 19·12 | 112 | 2 17 50·210 | 53 27 35·76 |
| 7 | 1 26 30·225 | 48 9 24·74 | 64 | 1 47 16·105 | 53 45 15·30 | 113 | 2 19 5·846 | 53 28 35·23 |
| 8 | 1 26 40·654 | 48 59 52·92 | 65 | 1 48 4·182 | 40 41 54·03 | 114 | 2 20 36·214 | 53 8 34·69 |
| 9 | 1 27 31·757 | 51 17 33·13 | 66 | 1 48 20·141 | 40 12 19·59 | 115 | 2 21 34·146 | 53 38 40·28 |
| 47° 450 | 1 28 5·321 | 47 54 30·33 | 67 | 1 48 43·402 | 54 20 2·43 | 116 | 2 21 50·970 | 53 6 14·81 |
| 10 | 1 28 8·038 | 47 25 6·11 | 68 | 1 49 2·195 | 40 6 32·81 | 117 | 2 21 52·874 | 53 39 36·32 |
| 11 | 1 28 30·859 | 52 2 4·28 | 69 | 1 49 20·414 | 40 51 8·75 | 118 | 2 22 21·316 | 34 56 29·89 |
| 12 | 1 28 35·710 | 45 33 1·64 | 70 | 1 49 37·287 | 54 8 17·77 | 119 | 2 22 21·996 | 35 2 27·27 |
| 13 | 1 28 56·080 | 51 19 31·08 | 71 | 1 50 54·211 | 53 52 16·16 | 120 | 2 22 49·569 | 53 1 46·50 |
| 14 | 1 28 56·693 | 48 43 0·71 | 72 | 1 51 19·327 | 54 26 36·69 | 52° 587 | 2 22 52·559 | 52 36 52·85 |
| 15 | 1 29 14·163 | 46 15 23·77 | 73 | 1 51 55·543 | 40 20 4·19 | 121 | 2 23 6·716 | 34 28 34·08 |
| 16 | 1 29 28·105 | 46 51 44·53 | 74 | 1 51 58·503 | 54 3 30·91 | 122 | 2 23 13·929 | 34 26 41·18 |
| 17 | 1 29 28·839 | 48 30 56·06 | 75 | 1 52 16·191 | 39 34 45·79 | 123 | 2 23 15·027 | 52 45 16·30 |
| 18 | 1 29 44·577 | 45 31 56·69 | 76 | 1 52 30·221 | 40 35 35·46 | 124 | 2 23 33·880 | 35 18 34·36 |
| 19 | 1 29 52·502 | 45 8 18·12 | 77 | 1 52 31·365 | 54 26 26·94 | 125 | 2 23 34·058 | 35 4 46·29 |
| 46° 397 | 1 30 18·722 | 46 48 54·05 | 78 | 1 53 13·827 | 39 56 24·21 | 126 | 2 23 35·832 | 34 5 4·10 |
| 20 | 1 30 26·830 | 46 11 11·26 | 79 | 1 53 47·059 | 39 20 31·09 | 127 | 2 23 47·749 | 52 42 15·14 |
| 47° 462 | 1 30 32·853 | 47 33 44·57 | 80 | 1 54 2·277 | 53 59 38·20 | 128 | 2 24 9·203 | 34 14 38·49 |
| 21 | 1 30 59·189 | 51 56 43·72 | 81 | 1 54 21·509 | 54 32 7·05 | 129 | 2 24 11·400 | 53 20 14·50 |
| 44° 335 | 1 32 5·079 | 44 18 31·02 | 82 | 1 54 48·454 | 39 7 21·65 | 130 | 2 24 59·027 | 52 47 48·05 |
| 22 | 1 32 7·732 | 45 59 28·64 | 83 | 1 54 57·338 | 38 52 37·32 | 52° 592 | 2 25 3·160 | 52 23 27·87 |
| 23 | 1 32 10·254 | 52 45 41·63 | 84 | 1 55 41·695 | 40 4 14·42 | 131 | 2 25 4·962 | 53 12 43·31 |
| 24 | 1 32 30·356 | 45 50 40·16 | 85 | 1 55 49·502 | 39 38 17·66 | 34° 449 | 2 25 6·738 | 34 57 20·50 |
| 25 | 1 32 44·895 | 44 40 23·49 | 86 | 1 56 2·444 | 54 1 36·43 | 132 | 2 26 1·429 | 53 14 28·21 |
| 26 | 1 32 52·451 | 51 30 58·43 | 87 | 1 56 34·691 | 54 34 52·27 | 34° 457 | 2 26 29·234 | 34 50 17·94 |
| 27 | 1 32 56·411 | 51 46 48·13 | 88 | 1 57 12·810 | 54 20 10·07 | 133 | 2 26 57·386 | 34 4 1·93 |
| 28 | 1 33 30·763 | 52 23 43·11 | 39° 457 | 1 57 45·175 | 39 34 30·24 | 52° 595 | 2 27 16·863 | 52 23 26·02 |
| 29 | 1 33 47·426 | 43 59 22·27 | 89 | 1 58 10·711 | 38 49 34·43 | 52° 597 | 2 27 22·976 | 52 57 54·13 |
| 30 | 1 33 47·634 | 52 55 58·81 | 90 | 1 58 15·305 | 53 57 45·53 | 134 | 2 27 40·973 | 52 38 51·76 |
| 31 | 1 34 4·071 | 45 35 11·05 | 91 | 1 58 44·480 | 39 3 35·04 | 135 | 2 28 17·166 | 34 25 3·64 |
| 32 | 1 34 16·496 | 52 53 15·59 | 92 | 1 59 26·042 | 54 14 57·39 | 136 | 2 28 20·110 | 52 38 57·47 |
| 33 | 1 34 28·920 | 45 20 42·64 | 93 | 1 59 33·671 | 54 25 37·85 | 53° 546 | 2 28 31·869 | 53 14 57·74 |
| 34 | 1 34 33·768 | 44 51 18·85 | 94 | 2 1 11·629 | 54 32 35·73 | 137 | 2 30 51·120 | 51 39 53·48 |
| 44° 346 | 1 34 45·245 | 44 16 29·25 | 53° 453 | 2 1 36·474 | 54 7 38·26 | 138 | 2 31 27·025 | 52 1 44·17 |
| 35 | 1 35 13·894 | 44 48 35·62 | 95 | 2 3 12·182 | 53 59 13·05 | 51° 604 | 2 31 37·424 | 51 38 37·71 |
| 36 | 1 35 27·801 | 43 38 21·86 | 53° 459 | 2 3 20·871 | 53 51 27·56 | 139 | 2 32 11·291 | 51 14 41·61 |
| 37 | 1 35 42·463 | 52 44 52·74 | 54° 470 | 2 3 27·824 | 54 49 6·72 | 140 | 2 32 11·300 | 51 21 40·41 |
| 38 | 1 35 47·552 | 52 59 46·04 | 96 | 2 4 32·551 | 54 31 37·01 | 141 | 2 32 30·688 | 51 36 59·12 |
| 39 | 1 35 49·505 | 43 21 19·48 | 97 | 2 4 35·231 | 37 30 7·98 | 50° 601 | 2 33 42·672 | 51 11 33·59 |
| 40 | 1 35 49·998 | 52 25 17·15 | 36° 426 | 2 4 37·582 | 37 13 44·83 | 142 | 2 34 1·288 | 51 56 47·96 |
| 41 | 1 36 32·046 | 44 4 32·40 | 98 | 2 4 52·443 | 54 9 37·19 | 143 | 2 34 15·982 | 51 5 2·09 |
| 42 | 1 36 55·135 | 44 30 12·58 | 99 | 2 4 52·656 | 53 34 38·67 | 144 | 2 34 24·146 | 51 7 17·34 |
| 43 | 1 37 10·050 | 52 47 16·43 | 53° 470 | 2 4 59·611 | 54 4 46·88 | 145 | 2 35 26·944 | 51 40 29·26 |
| 44 | 1 37 13·061 | 53 3 28·42 | 100 | 2 5 31·369 | 37 43 7·39 | 146 | 2 35 39·053 | 51 20 33·89 |
| 45 | 1 37 34·726 | 43 50 53·19 | 54° 483 | 2 6 11·449 | 54 38 27·82 | 147 | 2 36 40·471 | 32 53 45·85 |
| 42° 360 | 1 38 5·301 | 42 44 13·95 | 37° 505 | 2 7 52·478 | 37 56 20·67 | 148 | 2 37 54·478 | 32 38 9·40 |
| 46 | 1 38 31·056 | 43 12 24·33 | 36° 440 | 2 7 53·567 | 37 8 58·84 | 149 | 2 37 57·064 | 33 1 59·92 |
| 47 | 1 38 56·673 | 43 43 9·70 | 53° 486 | 2 8 4·907 | 54 3 51·52 | 150 | 2 38 37·490 | 49 49 56·89 |
| 48 | 1 39 47·343 | 43 22 29·80 | 54° 497 | 2 8 17·154 | 54 37 14·15 | 151 | 2 38 46·321 | 49 31 49·27 |
| 49 | 1 39 54·739 | 53 31 10·76 | 101 | 2 8 39·928 | 37 37 23·07 | 152 | 2 39 7·501 | 49 7 7·71 |
| 50 | 1 40 5·933 | 42 21 15·84 | 102 | 2 10 3·689 | 36 12 51·63 | 153 | 2 39 20·763 | 32 41 33·93 |
| 51 | 1 40 13·905 | 53 49 19·75 | 36° 450 | 2 10 27·275 | 36 40 59·72 | 154 | 2 40 1·626 | 49 47 58·00 |
| 52 | 1 40 29·972 | 43 4 50·21 | 103 | 2 11 8·715 | 37 1 22·49 | 155 | 2 40 15·838 | 32 12 10·90 |
| 53 | 1 41 12·900 | 53 19 32·62 | 36° 458 | 2 12 32·947 | 36 36 16·85 | 156 | 2 40 48·923 | 47 28 47·92 |
| 54 | 1 41 39·117 | +53 32 57·31 | 104 | 2 12 46·765 | +36 13 36·52 | 157 | 2 40 50·972 | +48 3 54·65 |

## TABLE IX.—Adopted Places of Comparison Stars.

| No. | R.A. 1900·0. | Dec. 1900·0. | No. | R.A. 1900·0. | Dec. 1900·0. | No. | R.A. 1900·0. | Dec. 1900·0. |
|---|---|---|---|---|---|---|---|---|
| | h m s | ° ′ ″ | | h m s | ° ′ ″ | | h m s | ° ′ ″ |
| 158 | 2 40 52·125 | + 48 47 59·48 | 194 | 2 52 27·816 | + 30 57 20·95 | 22° 629 | 3 59 27·220 | + 22 53 44·60 |
| 159 | 2 40 55·338 | 32 36 51·11 | 30° 474 | 2 53 52·659 | 30 12 27·65 | 217 | 4 0 21·989 | 22 34 1·90 |
| 160 | 2 40 57·637 | 32 7 29·60 | 195 | 2 54 5·408 | 31 1 38·11 | 23° 617 | 4 0 39·619 | 23 14 51·48 |
| 161 | 2 41 8·051 | 48 22 20·39 | 30° 477 | 2 54 13·528 | 30 43 39·66 | 218 | 4 2 3·600 | 22 40 3·49 |
| 162 | 2 41 26·342 | 48 51 22·85 | 29° 508 | 2 54 24·980 | 30 10 18·10 | 219 | 4 2 26·337 | 23 7 58·50 |
| 163 | 2 41 31·919 | 49 27 51·70 | 30° 479 | 2 56 6·820 | 30 35 29·40 | 220 | 4 3 31·582 | 23 1 47·03 |
| 164 | 2 41 35·932 | 46 14 46·38 | 29° 534 | 3 5 54·297 | 29 27 14·34 | 221 | 4 4 26·355 | 22 34 19·56 |
| 165 | 2 41 58·776 | 46 45 51·27 | 28° 507 | 3 7 34·999 | 28 51 27·58 | 222 | 4 18 52·069 | 21 11 26·04 |
| 166 | 2 41 59·317 | 45 15 39·10 | 196 | 3 9 9·005 | 28 40 38·37 | 223 | 4 18 54·695 | 20 52 29·79 |
| 167 | 2 42 2·204 | 32 16 22·22 | 197 | 3 10 26·466 | 28 55 29·78 | 21° 644 | 4 20 22·804 | 21 14 36·76 |
| 168 | 2 42 5·917 | 49 43 56·17 | 198 | 3 13 18·800 | 28 21 17·30 | 224 | 4 20 53·249 | 20 41 25·49 |
| 169 | 2 42 9·204 | 45 55 1·26 | 199 | 3 14 10·659 | 27 57 38·67 | 21° 647 | 4 22 4·610 | 21 23 48·86 |
| 170 | 2 42 16·891 | 47 18 11·92 | 28° 517 | 3 14 36·993 | 28 27 57·62 | 225 | 4 22 30·569 | 20 39 13·09 |
| 171 | 2 42 27·295 | 44 42 22·61 | 200 | 3 14 43·739 | 27 52 1·95 | 226 | 4 22 31·864 | 20 49 7·22 |
| 172 | 2 42 30·154 | 44 54 55·53 | 201 | 3 16 21·078 | 28 25 11·17 | 20° 760 | 4 22 44·304 | 20 36 35·65 |
| 173 | 2 42 30·813 | 32 41 35·22 | 202 | 3 16 22·538 | 27 59 47·85 | 227 | 4 23 14·112 | 20 28 44·02 |
| 174 | 2 42 35·076 | 47 49 28·62 | 26° 572 | 3 28 57·165 | 26 16 22·75 | 228 | 4 24 27·836 | 20 46 42·07 |
| 175 | 2 43 14·814 | 31 35 27·17 | 26° 574 | 3 29 19·189 | 26 30 59·13 | 229 | 4 24 33·312 | 20 19 46·92 |
| 176 | 2 43 26·471 | 49 19 19·75 | 26° 579 | 3 30 6·050 | 27 0 40·90 | 20° 772 | 4 25 45·585 | 20 34 3·71 |
| 177 | 2 43 27·913 | 45 35 15·70 | 25° 580 | 3 31 9·976 | 25 40 3·52 | 230 | 4 26 49·833 | 19 55 21·95 |
| 178 | 2 43 44·970 | 31 33 40·22 | 203 | 3 31 23·426 | 26 12 32·00 | 231 | 4 27 34·232 | 20 20 37·40 |
| 179 | 2 43 50·661 | 47 45 38·19 | 204 | 3 32 34·984 | 26 23 16·07 | 232 | 4 28 22·978 | 20 17 41·66 |
| 180 | 2 44 6·309 | 32 8 37·72 | 25° 584 | 3 33 29·118 | 25 48 4·57 | 233 | 4 28 41·000 | 20 7 4·93 |
| 181 | 2 44 29·149 | 48 21 44·06 | 26° 596 | 3 34 11·992 | 26 33 45·80 | 19° 740 | 4 29 47·965 | 19 45 47·72 |
| 182 | 2 44 44·099 | 45 32 32·20 | 205 | 3 34 56·021 | 26 0 4·92 | 234 | 4 29 49·435 | 20 16 18·95 |
| 183 | 2 44 45·464 | 46 41 57·61 | 24° 568 | 3 41 47·084 | 25 4 38·07 | 19° 745 | 4 30 51·329 | 19 17 21·87 |
| 184 | 2 44 54·865 | 45 13 59·24 | 24° 571 | 3 42 8·016 | 24 40 48·16 | 235 | 4 31 18·285 | 20 19 20·69 |
| 185 | 2 44 58·774 | 48 8 24·39 | 206 | 3 43 52·219 | 25 20 35·42 | 236 | 4 32 12·687 | 19 19 52·94 |
| 44° 591 | 2 45 6·758 | 44 38 47·57 | 207 | 3 44 35·784 | 24 29 15·98 | 237 | 4 33 10·069 | 20 2 51·72 |
| 186 | 2 45 35·449 | 46 21 55·10 | 208 | 3 45 7·258 | 25 6 21·39 | 238 | 4 33 35·628 | 19 22 15·25 |
| 187 | 2 45 36·657 | 46 59 33·26 | 209 | 3 45 51·606 | 24 47 49·32 | 239 | 4 34 58·918 | 19 51 33·99 |
| 47° 720 | 2 45 37·332 | 47 30 3·61 | 23° 586 | 3 49 50·836 | 23 32 9·43 | 18° 725 | 4 41 4·006 | 18 53 56·31 |
| 188 | 2 45 37·851 | 45 4 58·11 | 210 | 3 49 57·892 | 24 4 12·52 | 18° 727 | 4 41 17·825 | 18 18 27·67 |
| 189 | 2 45 52·159 | 31 55 55·74 | 211 | 3 50 6·893 | 24 30 7·38 | 19° 782 | 4 41 51·383 | 19 8 22·65 |
| 190 | 2 46 7·488 | 32 3 6·47 | 212 | 3 52 27·454 | 24 24 18·09 | 18° 734 | 4 42 50·803 | 18 32 33·85 |
| 191 | 2 46 23·439 | 46 2 4·98 | 213 | 3 52 37·296 | 24 4 29·22 | 18° 738 | 4 44 27·341 | 19 1 10·87 |
| 30° 464 | 2 49 39·381 | 30 38 14·37 | 214 | 3 52 38·946 | 23 24 16·78 | 240 | 4 44 57·237 | 18 9 8·01 |
| 30° 465 | 2 49 50·629 | 31 10 29·94 | 215 | 3 57 47·128 | 23 20 39·70 | 241 | 4 52 39·225 | 17 22 55·69 |
| 192 | 2 50 29·477 | 31 32 48·68 | 216 | 3 58 13·153 | 23 8 5·62 | 242 | 4 52 56·405 | 17 50 6·08 |
| 30° 469 | 2 51 58·204 | 31 6 53·09 | 23° 611 | 3 58 52·397 | 23 14 5·14 | 243 | 4 54 7·190 | 18 2 33·63 |
| 193 | 2 52 3·815 | + 30 38 43·63 | 23° 613 | 3 59 17·118 | + 23 31 26·03 | 244 | 4 55 11·446 | + 17 22 19·49 |

### TABLE A.—Corrections for Supplementary Division Errors of *Réseau*.

*Astrographic.*

| No. of Plate. | Date. | Division Correction. | No. of Plate. | Date. | Division Correction. | No. of Plate. | Date. | Division Correction. | No. of Plate. | Date. | Division Correction. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | s | | | s | | | s | | | s |
| 5126 | Oct. 1 | + ·006 | 5211 | Nov. 7 | − ·006 | 5274 | Nov. 27 | − ·007 | 5344 | Jan. 5 | − ·004 |
| 5129 | 2 | + ·003 | 5212 | 9 | + ·006 | 5275 | 29 | − ·007 | 5345 | 5 | − ·004 |
| 5130 | 2 | + ·003 | 5213 | 9 | + ·006 | | | | 5346 | 5 | − ·005 |
| 5131 | 2 | + ·006 | 5214 | 9 | − ·007 | | | | 5347 | 5 | − ·005 |
| 5133 | 2 | + ·006 | 5215 | 9 | − ·006 | 5276 | Dec. 6 | − ·006 | 5348 | 5 | − ·005 |
| 5134 | 3 | + ·006 | 5216 | 9 | − ·006 | 5277 | 6 | − ·006 | 5349 | 8 | − ·001 |
| 5138 | 4 | + ·006 | 5217 | 9 | − ·006 | 5278 | 6 | − ·006 | 5350 | 8 | − ·005 |
| 5139 | 4 | + ·006 | 5218 | 10 | + ·006 | 5279 | 7 | ... | 5351 | 8 | − ·005 |
| 5141 | 5 | + ·006 | 5219 | 10 | + ·006 | 5280 | 7 | − ·006 | 5352 | 8 | − ·005 |
| 5142 | 7 | + ·005 | 5220 | 10 | + ·006 | 5283 | 7 | − ·006 | 5353 | 9 | − ·002 |
| 5143 | 7 | + ·006 | 5222 | 10 | − ·007 | 5285 | 9 | + ·007 | 5354 | 9 | − ·004 |
| 5145 | 7 | + ·006 | 5223 | 10 | − ·007 | 5286 | 9 | − ·006 | 5355 | 9 | − ·004 |
| 5146 | 7 | + ·006 | 5226 | 11 | + ·006 | 5287 | 10 | − ·001 | 5356 | 9 | − ·005 |
| 5148 | 8 | + ·006 | 5227 | 11 | + ·006 | 5288 | 13 | − ·006 | 5359 | 13 | − ·005 |
| 5150 | 8 | + ·006 | 5228 | 11 | + ·006 | 5289 | 13 | − ·006 | 5365 | 14 | − ·005 |
| 5152 | 8 | − ·006 | 5229 | 11 | − ·007 | 5290 | 13 | − ·006 | 5366 | 14 | − ·005 |
| 5154 | 10 | + ·006 | 5230 | 13 | + ·006 | 5294 | 13 | − ·006 | 5367 | 14 | − ·005 |
| 5160 | 14 | + ·006 | 5231 | 13 | + ·006 | 5297 | 13 | − ·006 | 5368 | 15 | − ·002 |
| 5161 | 14 | + ·006 | 5232 | 13 | + ·006 | 5299 | 15 | + ·008 | 5369 | 15 | − ·002 |
| 5162 | 15 | + ·006 | 5234 | 13 | − ·006 | 5300 | 15 | + ·008 | 5371 | 15 | − ·005 |
| 5169 | 20 | − ·007 | 5235 | 13 | − ·006 | 5304 | 15 | − ·006 | 5372 | 15 | − ·005 |
| 5170 | 20 | − ·007 | 5236 | 13 | − ·006 | 5306 | 15 | − ·006 | 5379 | 17 | − ·005 |
| 5172 | 20 | − ·006 | 5237 | 14 | − ·007 | 5307 | 15 | − ·006 | 5390 | 24 | − ·002 |
| 5173 | 21 | + ·006 | 5238 | 14 | − ·007 | 5308 | 16 | + ·008 | | | |
| 5174 | 21 | + ·006 | 5239 | 15 | + ·006 | 5309 | 17 | + ·008 | | | |
| 5177 | 21 | − ·007 | 5240 | 15 | + ·006 | 5310 | 17 | + ·008 | 5394 | Feb. 1 | − ·002 |
| 5178 | 21 | − ·006 | 5241 | 15 | + ·006 | 5313 | 17 | − ·006 | 5397 | 3 | − ·004 |
| 5179 | 21 | − ·006 | 5242 | 15 | − ·008 | 5314 | 19 | + ·008 | 5398 | 3 | − ·004 |
| 5183 | 26 | + ·006 | 5243 | 15 | − ·008 | 5315 | 19 | + ·008 | 5407 | 6 | ·000 |
| 5184 | 26 | + ·006 | 5248 | 18 | − ·008 | 5318 | 19 | − ·005 | 5408 | 11 | + ·005 |
| 5185 | 26 | + ·006 | 5249 | 18 | − ·008 | 5319 | 19 | − ·005 | 5409 | 11 | + ·006 |
| 5186 | 26 | − ·006 | 5250 | 18 | − ·008 | 5322 | 19 | − ·005 | 5412 | 11 | − ·006 |
| 5187 | 26 | − ·006 | 5253 | 22 | + ·006 | 5324 | 19 | − ·006 | 5413 | 11 | − ·006 |
| 5189 | 26 | − ·006 | 5254 | 22 | + ·006 | 5326 | 20 | − ·006 | 5414 | 12 | + ·005 |
| 5190 | 26 | − ·006 | 5256 | 22 | − ·004 | 5327 | 21 | ·000 | 5415 | 12 | + ·006 |
| 5191 | 27 | + ·006 | 5257 | 22 | − ·006 | 5328 | 21 | ·000 | 5416 | 12 | + ·006 |
| 5192 | 27 | + ·006 | 5258 | 22 | − ·006 | 5329 | 21 | ·000 | 5420 | 13 | + ·005 |
| 5193 | 27 | + ·006 | 5259 | 22 | − ·006 | 5330 | 24 | − ·005 | 5421 | 13 | − ·004 |
| 5200 | 27 | − ·007 | 5260 | 22 | − ·006 | 5331 | 26 | − ·005 | 5422 | 13 | − ·004 |
| 5201 | 27 | − ·007 | 5261 | 23 | + ·007 | 5333 | 28 | − ·005 | 5426 | 13 | − ·006 |
| 5202 | 27 | − ·006 | 5262 | 23 | + ·007 | 5334 | 28 | − ·005 | 5427 | 13 | − ·006 |
| 5203 | 27 | − ·006 | 5263 | 23 | − ·006 | 5335 | 28 | − ·005 | 5428 | 14 | − ·005 |
| 5204 | 28 | − ·001 | 5264 | 23 | − ·006 | 5336 | 28 | − ·006 | 5429 | 15 | + ·005 |
| 5205 | 29 | + ·006 | 5267 | 25 | + ·006 | 5337 | 29 | − ·007 | 5430 | 15 | + ·006 |
| 5206 | 29 | + ·006 | 5268 | 25 | − ·002 | 5338 | 29 | − ·002 | 5431 | 15 | + ·006 |
| 5207 | 31 | − ·006 | 5269 | 25 | ·000 | | | | 5434 | 17 | + ·004 |
| 5208 | 31 | − ·006 | 5270 | 27 | + ·006 | | | | 5436 | 20 | + ·005 |
| | | | 5271 | 27 | + ·006 | 5341 | Jan. 4 | − ·001 | 5438 | 20 | + ·004 |
| 5209 | Nov. 6 | + ·006 | 5272 | 27 | + ·006 | 5342 | 4 | ·000 | 5441 | 20 | − ·006 |
| 5210 | 7 | − ·006 | 5273 | 27 | − ·007 | 5343 | 4 | + ·002 | 5452 | 25 | − ·006 |

## TABLE A.—Corrections for Supplementary Division Errors of *Réseau*.

*Thompson.*

| No. of Plate. | Date. | Division Correction. | No. of Plate. | Date. | Division Correction. | No. of Plate. | Date. | Division Correction. | No. of Plate. | Date. | Division Correction. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | s | | | s | | | s | | | s |
| 744 | Oct. 1 | ·000 | 802 | Oct. 29 | + ·002 | 869 | Dec. 17 | + ·003 | 912 | Jan. 15 | + ·002 |
| 745 | 1 | + ·003 | 803 | 29 | + ·002 | 870 | 17 | − ·002 | 913 | 15 | + ·002 |
| 746 | 1 | + ·003 | | | | 871 | 17 | + ·004 | 914 | 15 | + ·002 |
| 747 | 2 | + ·003 | | | | 872 | 19 | − ·001 | 915 | 17 | − ·002 |
| 748 | 3 | + ·003 | 804 | Nov. 6 | + ·002 | 873 | 19 | − ·001 | 917 | 18 | ·000 |
| 749 | 3 | + ·003 | 806 | 8 | ·000 | 874 | 19 | ·000 | 918 | 18 | ·000 |
| 751 | 4 | + ·003 | 807 | 8 | ·000 | 875 | 19 | + ·003 | 919 | 18 | − ·001 |
| 752 | 4 | + ·003 | 811 | 10 | − ·002 | 876 | 19 | + ·003 | 920 | 18 | − ·002 |
| 753 | 4 | + ·003 | 812 | 10 | − ·002 | 877 | 19 | + ·003 | 921 | 22 | − ·001 |
| 754 | 5 | + ·003 | 817 | 13 | + ·002 | 878 | 21 | − ·001 | 922 | 22 | − ·001 |
| 755 | 5 | + ·003 | 818 | 13 | + ·002 | 879 | 21 | − ·001 | 925 | 24 | − ·002 |
| 756 | 7 | + ·003 | 819 | 13 | − ·002 | 880 | 21 | + ·003 | 926 | 24 | − ·002 |
| 757 | 7 | + ·003 | 820 | 13 | − ·002 | 881 | 21 | + ·003 | 927 | 28 | ·000 |
| 759 | 8 | + ·003 | 821 | 14 | − ·003 | 882 | 21 | + ·003 | 928 | 29 | ·000 |
| 760 | 8 | + ·003 | 822 | 15 | + ·001 | 883 | 26 | − ·001 | 930 | 29 | − ·002 |
| 761 | 8 | + ·003 | 823 | 15 | + ·002 | 884 | 26 | − ·001 | | | |
| 762 | 9 | + ·003 | 844 | 27 | + ·003 | 885 | 28 | + ·002 | | | |
| 763 | 10 | + ·003 | 845 | 27 | + ·003 | 886 | 28 | + ·002 | 931 | Feb. 1 | ·000 |
| 764 | 10 | + ·003 | 846 | 27 | + ·003 | 887 | 29 | − ·001 | 933 | 1 | − ·001 |
| 766 | 13 | + ·003 | 847 | 27 | + ·003 | | | | 934 | 3 | − ·002 |
| 770 | 14 | + ·003 | | | | | | | 935 | 3 | − ·002 |
| 771 | 14 | + ·003 | 848 | Dec. 6 | − ·003 | 889 | Jan. 2 | − ·002 | 936 | 5 | + ·003 |
| 778 | 20 | + ·003 | 849 | 6 | − ·003 | 890 | 2 | − ·003 | 937 | 5 | + ·002 |
| 782 | 21 | + ·003 | 850 | 6 | − ·003 | 891 | 4 | ·000 | 938 | 6 | ·000 |
| 783 | 21 | + ·003 | 851 | 7 | + ·003 | 892 | 4 | ·000 | 939 | 6 | ·000 |
| 787 | 26 | + ·003 | 852 | 7 | − ·003 | 894 | 5 | − ·001 | 940 | 6 | ·000 |
| 788 | 26 | + ·003 | 853 | 7 | − ·003 | 895 | 5 | − ·001 | 941 | 11 | − ·002 |
| 789 | 26 | + ·003 | 854 | 7 | − ·003 | 896 | 5 | − ·002 | 942 | 11 | − ·002 |
| 790 | 26 | + ·003 | 855 | 10 | + ·003 | 897 | 5 | − ·002 | 943 | 11 | − ·001 |
| 791 | 26 | − ·003 | 856 | 10 | + ·003 | 898 | 5 | − ·003 | 944 | 11 | + ·001 |
| 792 | 26 | − ·003 | 858 | 13 | + ·004 | 899 | 9 | ·000 | 945 | 11 | + ·001 |
| 793 | 26 | − ·003 | 859 | 13 | + ·004 | 900 | 9 | ·000 | 946 | 12 | − ·001 |
| 794 | 27 | + ·001 | 860 | 13 | + ·004 | 901 | 9 | ·000 | 947 | 12 | − ·002 |
| 795 | 27 | + ·004 | 861 | 13 | − ·003 | 904 | 14 | ·000 | 948 | 12 | − ·002 |
| 796 | 27 | + ·002 | 863 | 15 | + ·002 | 905 | 14 | ·000 | 949 | 13 | − ·001 |
| 797 | 27 | − ·003 | 864 | 15 | + ·002 | 906 | 14 | − ·002 | 952 | 14 | − ·001 |
| 798 | 27 | − ·003 | 865 | 15 | + ·002 | 907 | 14 | − ·002 | 954 | 17 | − ·002 |
| 799 | 27 | − ·003 | 866 | 15 | − ·003 | 908 | 15 | ·000 | 955 | 17 | − ·003 |
| 800 | 28 | ·000 | 867 | 15 | − ·003 | 909 | 15 | ·000 | 958 | 20 | − ·002 |
| 801 | 29 | + ·002 | 868 | 15 | − ·003 | 910 | 15 | ·000 | 959 | 20 | − ·002 |

## TABLE X.—Observed Places of Eros and Deduced Corrections to Tabular Places from Photographs taken with the Astrographic and Thompson Refractors.

NOTE.—From 1900 Oct. 1 to Nov. 18 the comparison has been made with Ephemeris (A); from 1900 Nov. 22 to 1901 Jan. 5 with Ephemeris (B); and from 1901 Jan. 8 with Ephemeris (C); given in Circular 9 of the *Conférence Astrophotographique Internationale.*

The Parallax has been computed with the value of the Solar Parallax 8″·800.

The observed places of Eros given in Columns 4 and 5 are deduced from the Reference Stars for Astrographic, and from the Comparison Stars for Thompson photographs, indicated by A and T respectively in Column 2.

| No. of Plate. | Telescope. | Date and G.M.T. 1900. | True Equinox of the Date. | | Parallax. | | Correction to Tabular Place. | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | From Reference Stars. | | From Comparison Stars. | |
| | | | R.A. | Dec. N. | R.A. | Dec. | R.A. | Dec. | R.A. | Dec. |
| | | d h m s | h m s | ° ′ ″ | s | ″ | s | ″ | s | ″ |
| 744 | T | Oct. 1 7 20 20·7 | 2 43 57·847 | 44 53 42·96 | − 0·889 | + 9·77 | ... | ... | − 0·004 | + 1·83 |
| 5126 | A | 1 10 52 10·8 | 2 43 58·851 | 44 57 0·56 | 0·671 | 3·93 | − 0·022 | + 1·76 | 0·020 | 1·65 |
| 745 | T | 1 11 6 34·6 | 2 43 58·933 | 44 57 14·55 | 0·632 | 3·62 | ... | ... | 0·007 | 2·32 |
| 746 | T | 1 12 13 0·0 | 2 43 59·229 | 44 58 15·70 | 0·419 | 2·46 | ... | ... | 0·015 | 1·53 |
| 747 | T | 2 7 36 2·3 | 2 44 3·369 | 45 16 18·26 | 0·917 | 9·26 | ... | ... | 0·032 | 1·76 |
| 5129 | A | 2 8 43 44·2 | 2 44 3·537 | 45 17 20·99 | − 0·905 | + 7·19 | − 0·038 | + 1·60 | − 0·037 | + 1·57 |
| 5130 | A | 2 9 26 17·3 | 2 44 3·645 | 45 18 0·46 | 0·857 | 5·99 | 0·036 | 1·60 | 0·035 | 1·64 |
| 5131 | A | 2 10 26 12·4 | 2 44 3·793 | 45 18 56·32 | 0·741 | 4·41 | 0·031 | 1·85 | 0·036 | 1·86 |
| 5133 | A | 2 12 51 3·7 | 2 44 4·125 | 45 21 10·64 | 0·270 | 1·92 | 0·020 | 1·78 | 0·015 | 1·79 |
| 748 | T | 3 7 53 45·4 | 2 44 5·429 | 45 38 49·94 | 0·939 | 8·65 | ... | ... | 0·026 | 2·00 |
| 749 | T | 3 9 7 40·3 | 2 44 5·410 | 45 39 58·04 | − 0·894 | + 6·41 | ... | ... | − 0·055 | + 1·88 |
| 5134 | A | 3 10 7 5·5 | 2 44 5·411 | 45 40 51·01 | 0·790 | 4·77 | − 0·053 | + 1·73 | 0·062 | 1·75 |
| 5138 | A | 4 7 21 54·0 | 2 44 4·018 | 46 0 23·81 | 0·948 | 9·58 | 0·009 | 1·74 | 0·005 | 1·70 |
| 751 | T | 4 7 47 39·3 | 2 44 3·941 | 46 0 47·14 | 0·957 | 8·77 | ... | ... | 0·026 | 1·45 |
| 5139 | A | 4 8 3 47·9 | 2 44 3·880 | 46 1 2·32 | 0·955 | 8·24 | 0·048 | 1·83 | 0·046 | 1·74 |
| 752 | T | 4 8 4 29·8 | 2 44 3·875 | 46 1 3·20 | − 0·955 | + 8·24 | ... | ... | − 0·053 | + 2·07 |
| 753 | T | 4 12 18 2·7 | 2 44 3·274 | 46 4 54·86 | 0·379 | 2·04 | ... | ... | 0·016 | 1·36 |
| 754 | T | 5 6 48 2·4 | 2 43 59·084 | 46 21 49·13 | 0·940 | 10·57 | ... | ... | 0·084 | 1·84 |
| 5141 | A | 5 8 18 58·4 | 2 43 58·690 | 46 23 11·56 | 0·966 | 7·69 | − 0·043 | + 1·48 | 0·046 | 1·33 |
| 755 | T | 5 8 40 36·0 | 2 43 58·577 | 46 23 31·63 | 0·949 | 7·01 | ... | ... | 0·050 | 1·87 |
| 756 | T | 7 8 32 29·0 | 2 43 37·035 | 47 6 43·66 | − 0·985 | + 7·04 | ... | ... | − 0·058 | + 1·70 |
| 5142 | A | 7 9 13 35·6 | 2 43 36·631 | 47 7 20·52 | 0·928 | 5·75 | − 0·044 | + 1·79 | 0·035 | 1·80 |
| 5143 | A | 7 9 48 45·4 | 2 43 36·247 | 47 7 52·17 | 0·856 | 4·72 | 0·067 | 1·99 | 0·063 | 1·86 |
| 5145 | A | 7 11 1 16·2 | 2 43 35·491 | 47 8 56·89 | 0·644 | 2·92 | 0·073 | 1·92 | 0 069 | 1·98 |
| 5146 | A | 7 11 38 1·4 | 2 43 35·110 | 47 9 29·75 | 0·511 | 2·22 | 0·070 | 1·91 | 0·069 | 1·82 |
| 757 | T | 7 12 19 27·6 | 2 43 34·686 | 47 10 6·62 | − 0·345 | + 1·64 | ... | ... | − 0·057 | + 1·77 |
| 759 | T | 8 6 57 39·4 | 2 43 21·656 | 47 26 41·72 | 1·015 | 10·08 | ... | ... | 0·089 | 1·94 |
| 760 | T | 8 7 20 26·2 | 2 43 21·359 | 47 27 01·91 | 1·027 | 9·32 | ... | ... | 0·096 | 1·94 |
| 5148 | A | 8 7 43 37·7 | 2 43 21·067 | 47 27 22·74 | 1·029 | 8·54 | − 0·092 | + 2·23 | 0·104 | 2·22 |
| 761 | T | 8 11 58 12·8 | 2 43 17·752 | 47 31 7·69 | 0·422 | 1·78 | ... | ... | 0·092 | 1·85 |
| 5152 | A | 8 12 57 3·1 | 2 43 16·931 | 47 31 59·48 | − 0·168 | + 1·20 | − 0·129 | + 1·62 | − 0·122 | + 1·84 |
| 762 | T | 9 6 29 24·9 | 2 43 1·833 | 47 47 26·01 | 1·010 | 10·95 | ... | ... | 0·067 | 1·77 |
| 763 | T | 10 6 30 34·8 | 2 42 37·485 | 48 8 21·60 | 1·035 | 10·84 | ... | ... | 0·110 | 1·62 |
| 764 | T | 10 6 53 15·4 | 2 42 37·032 | 48 8 41·57 | 1·056 | 10·07 | ... | ... | 0·149 | 2·00 |
| 5154 | A | 10 7 21 13·9 | 2 42 36·569 | 48 9 5·89 | 1·069 | 9·10 | 0·097 | 2·06 | 0·092 | 2·03 |
| 766 | T | 13 12 46 13·3 | 2 40 48·861 | 49 14 33·15 | − 0·129 | + 0·69 | ... | ... | − 0·112 | + 1·57 |
| 770 | T | 14 11 50 46·0 | 2 40 7·944 | 49 33 23·91 | 0·381 | 1·02 | ... | ... | 0·118 | 1·71 |
| 771 | T | 14 12 17 13·3 | 2 40 7·110 | 49 33 45·33 | 0·252 | 0·75 | ... | ... | 0·131 | 1·72 |
| 5160 | A | 14 12 37 33·8 | 2 40 6·503 | 49 34 1·62 | − 0·152 | 0·62 | − 0·105 | + 1·56 | 0·108 | 1·61 |
| 5161 | A | 14 13 15 6·0 | 2 40 5·330 | 49 34 32·03 | + 0·038 | 0·56 | 0·107 | 1·62 | 0·100 | 1·63 |

## TABLE X.—Observed Places of Eros and Deduced Corrections to Tabular Places from Photographs taken with the Astrographic and Thompson Refractors.

| No. of Plate. | Telescope. | Date and G.M.T. 1900. | True Equinox of the Date. | | Parallax. | | Correction to Tabular Place. | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | From Reference Stars. | | From Comparison Stars. | |
| | | | R.A. | Dec. N. | R.A. | Dec. | R.A. | Dec. | R.A. | Dec. |
| | | d h m s | h m s | ° ′ ″ | s | ″ | s | ″ | s | ″ |
| 5162 | A | Oct. 15 7 7 57·5 | 2 39 30·574 | 49 48 52·63 | − 1·170 | + 8·97 | − 0·115 | + 1·55 | − 0·123 | + 1·52 |
| 778 | T | 20 11 41 11·9 | 2 34 18·404 | 51 21 53·38 | 0·317 | 0·27 | ... | ... | 0·154 | 1·48 |
| 5169 | A | 20 11 51 38·5 | 2 34 17·865 | 51 22 0·52 | 0·260 | + 0·17 | 0·171 | 1·40 | 0·162 | 1·35 |
| 5170 | A | 20 12 22 33·6 | 2 34 16·337 | 51 22 21·79 | − 0·088 | − 0·01 | 0·152 | 1·29 | 0·153 | 1·31 |
| 5172 | A | 20 17 17 28·7 | 2 34 1·462 | 51 25 44·95 | + 1·209 | + 6·15 | 0·170 | 1·37 | 0·177 | 1·35 |
| 5173 | A | 21 6 20 34·0 | 2 33 21·105 | 51 34 37·32 | − 1·296 | 9·96 | − 0·162 | + 1·55 | − 0·159 | + 1·45 |
| 5174 | A | 21 6 48 21·1 | 2 33 19·636 | 51 34 55·71 | 1·296 | 8·80 | 0·174 | 1·25 | 0·160 | 1·18 |
| 782 | T | 21 7 1 6·9 | 2 33 18·967 | 51 35 4·43 | 1·290 | 8·28 | ... | ... | 0·174 | 1·38 |
| 783 | T | 21 7 26 43·4 | 2 33 17·627 | 51 35 21·67 | 1·265 | + 7·23 | ... | ... | 0·169 | 1·41 |
| 5177 | A | 21 12 9 29·4 | 2 33 2·673 | 51 38 30·93 | − 0·134 | − 0·07 | 0·183 | 1·38 | 0·182 | 1·37 |
| 5178 | A | 21 16 47 32·9 | 2 32 47·840 | 51 41 35·75 | + 1·174 | + 5·20 | − 0·156 | + 1·40 | − 0·168 | + 1·46 |
| 5179 | A | 21 17 11 47·5 | 2 32 46·516 | 51 41 52·17 | + 1·229 | 6·13 | 0·177 | 1·77 | 0·176 | 1·84 |
| 5183 | A | 26 6 17 37·0 | 2 26 10·220 | 52 47 18·56 | − 1·405 | 9·18 | 0·227 | 1·32 | 0·217 | 1·15 |
| 787 | T | 26 6 43 14·2 | 2 26 8·521 | 52 47 32·16 | 1·389 | 8·04 | ... | ... | 0·209 | 1·26 |
| 5184 | A | 26 7 0 1·2 | 2 26 7·382 | 52 47 41·42 | 1·370 | 7·32 | 0·224 | 1·58 | 0·236 | 1·33 |
| 788 | T | 26 7 5 41·6 | 2 26 6·996 | 52 47 44·07 | 1·362 | 7·07 | ... | ... | − 0·229 | + 1·20 |
| 789 | T | 26 7 31 4·2 | 2 26 5·297 | 52 47 57·66 | 1·315 | 6·00 | ... | ... | 0·226 | 1·29 |
| 5185 | A | 26 7 35 47·9 | 2 26 4·980 | 52 48 0·24 | 1·304 | + 5·80 | − 0·225 | + 1·35 | 0·212 | 1·15 |
| 790 | T | 26 11 19 19·7 | 2 25 49·936 | 52 49 58·45 | 0·288 | − 0·34 | ... | ... | 0·220 | 1·24 |
| 5186 | A | 26 11 25 5·3 | 2 25 49·523 | 52 50 1·35 | 0·253 | 0·39 | 0·244 | 1·11 | 0·239 | 1·25 |
| 791 | T | 26 11 58 18·1 | 2 25 47·296 | 52 50 19·08 | − 0·049 | 0·55 | ... | ... | − 0·227 | + 1·35 |
| 5187 | A | 26 12 20 18·8 | 2 25 45·791 | 52 50 30·55 | + 0·087 | − 0·53 | − 0·244 | + 1·25 | 0·239 | 1·30 |
| 792 | T | 26 17 6 20·6 | 2 25 26·384 | 52 53 0·08 | 1·370 | + 7·06 | ... | ... | 0·230 | 1·33 |
| 5189 | A | 26 17 8 0·6 | 2 25 26·284 | 52 53 0·73 | 1·373 | 7·14 | 0·217 | 1·11 | 0·221 | 1·12 |
| 793 | T | 26 17 27 14·7 | 2 25 24·970 | 52 53 10·83 | 1·394 | 7·98 | ... | ... | 0·219 | 1·23 |
| 5190 | A | 26 17 39 31·0 | 2 25 24·110 | 52 53 17·41 | + 1·407 | 8·53 | − 0·242 | + 1·44 | − 0·247 | + 1·59 |
| 5191 | A | 27 6 36 27·3 | 2 24 30·588 | 52 59 53·52 | − 1·412 | 8·13 | 0·220 | 1·39 | 0·216 | 1·35 |
| 5192 | A | 27 7 2 0·8 | 2 24 28·814 | 53 0 6·36 | 1·379 | 7·01 | 0·215 | 1·43 | 0·218 | 1·37 |
| 794 | T | 27 7 18 1·2 | 2 24 27·680 | 53 0 14·07 | 1·351 | 6·34 | ... | ... | 0·234 | 1·13 |
| 5193 | A | 27 7 23 53·2 | 2 24 27·292 | 53 0 17·15 | 1·338 | 6·06 | 0·213 | 1·28 | 0·206 | 1·15 |
| 795 | T | 27 7 49 29·8 | 2 24 25·490 | 53 0 29·87 | 1·274 | + 5·01 | ... | ... | − 0·230 | + 1·20 |
| 5200 | A | 27 11 9 47·5 | 2 24 11·481 | 53 2 9·39 | 0·316 | − 0·37 | − 0·236 | + 1·11 | 0·232 | 1·24 |
| 5201 | A | 27 11 30 27·8 | 2 24 10·031 | 53 2 19·74 | 0·189 | 0·54 | ·236 | 1·23 | 0·241 | 1·24 |
| 796 | T | 27 11 37 51·6 | 2 24 9·504 | 53 2 23·29 | − 0·143 | 0·58 | ... | ... | 0·245 | 1·13 |
| 797 | T | 27 12 15 5·8 | 2 24 6·884 | 53 2 41·74 | + 0·091 | − 0·61 | ... | ... | 0·251 | 1·18 |
| 5202 | A | 27 16 56 55·4 | 2 23 47·060 | 53 4 59·96 | 1·384 | + 6·91 | − 0·223 | + 1·20 | − 0·221 | + 1·22 |
| 798 | T | 27 17 0 26·9 | 2 23 46·795 | 53 5 1·67 | 1·390 | 7·07 | ... | ... | 0·240 | 1·19 |
| 5203 | A | 27 17 25 1·2 | 2 23 45·067 | 53 5 13·60 | 1·422 | 8·16 | 0·230 | 1·16 | 0·243 | 1·17 |
| 799 | T | 27 17 25 26·7 | 2 23 45·018 | 53 5 13·85 | 1·422 | 8·18 | ... | ... | 0·249 | 1·21 |
| 800 | T | 28 17 9 58·3 | 2 22 2·563 | 53 16 23·25 | 1·428 | 7·75 | ... | ... | 0·243 | 1·11 |
| 5204 | A | 28 17 19 4·4 | 2 22 1·895 | 53 16 27·32 | + 1·438 | + 8·16 | − 0·245 | + 1·06 | − 0·241 | + 1·09 |
| 801 | T | 29 6 10 46·2 | 2 21 5·014 | 53 22 9·89 | − 1·464 | 8·87 | ... | ... | 0·235 | 1·10 |
| 5205 | A | 29 6 16 11·9 | 2 21 4·603 | 53 22 12·26 | 1·460 | 8·62 | 0·243 | 1·11 | 0·244 | 1·09 |
| 802 | T | 29 6 31 38·3 | 2 21 3·425 | 53 22 19·07 | 1·446 | 7·91 | ... | ... | 0·273 | 1·21 |
| 5206 | A | 29 6 41 46·7 | 2 21 2·698 | 53 22 23·48 | 1·433 | 7·45 | 0·246 | 1·22 | 0·247 | 1·25 |
| 803 | T | 29 6 52 56·4 | 2 21 1·864 | 53 22 28·25 | − 1·416 | + 6·95 | ... | ... | − 0·250 | + 1·15 |
| 5207 | A | 31 17 0 0·8 | 2 16 33·692 | 53 45 9·58 | + 1·499 | 8·22 | − 0·299 | + 1·04 | 0·298 | 1·06 |
| 5208 | A | 31 17 26 52·2 | 2 16 31·600 | 53 45 18·78 | + 1·518 | 9·49 | 0·263 | 0·95 | 0·263 | 0·89 |
| 804 | T | Nov. 6 5 58 48·8 | 2 5 31·837 | 54 16 53·29 | − 1·571 | 7·57 | ... | ... | 0·301 | 0·89 |
| 5209 | A | 6 6 5 54·3 | 2 5 31·235 | 54 16 54·23 | − 1·558 | 7·23 | 0·297 | 0·93 | 0·286 | 0·98 |

TABLE X.—Observed Places of Eros and Deduced Corrections to Tabular Places from Photographs taken with the Astrographic and Thompson Refractors.

| No. of Plate. | Telescope. | Date and G.M.T. 1900. | True Equinox of the Date. | | Parallax. | | Correction to Tabular Place. | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | From Reference Stars. | | From Comparison Stars. | |
| | | | R.A. | Dec. N. | R.A. | Dec. | R.A. | Dec. | R.A. | Dec. |
| | | d h m s | h m s | ° ′ ″ | s | ″ | s | ″ | s | ″ |
| 5210 | A | Nov. 7 17 13 39·0 | 2 2 30·403 | 54 20 16·62 | + 1·635 | + 11·40 | − 0·303 | + 0·41 | − 0·300 | + 0·44 |
| 5211 | A | 7 17 59 49·1 | 2 2 26·465 | 54 20 19·73 | 1·575 | 13·71 | 0·273 | 0·53 | 0·269 | 0·43 |
| 806 | T | 8 12 37 2·1 | 2 0 50·392 | 54 21 13·00 | 0·745 | 0·03 | ... | ... | 0·300 | 0·63 |
| 807 | T | 8 13 0 5·1 | 2 0 48·423 | 54 21 13·64 | + 0·890 | 0·61 | ... | ... | 0·288 | 0·56 |
| 5212 | A | 9 6 12 48·1 | 1 59 19·729 | 54 21 29·56 | − 1·543 | 6·18 | 0·289 | 0·92 | 0·290 | 0·86 |
| 5213 | A | 9 7 26 2·7 | 1 59 13·426 | 54 21 29·22 | 1·280 | + 2·94 | − 0·309 | + 0·68 | − 0·305 | + 0·66 |
| 5214 | A | 9 10 35 28·5 | 1 58 57·169 | 54 21 27·99 | − 0·065 | − 1·24 | 0·322 | 0·46 | 0·317 | 0·63 |
| 5215 | A | 9 14 25 42·2 | 1 58 37·468 | 54 21 25·41 | + 1·375 | + 3·90 | 0·294 | 0·53 | 0·306 | 0·45 |
| 5216 | A | 9 17 9 32·3 | 1 58 23·435 | 54 21 22·54 | 1·657 | 11·99 | 0·297 | 0·51 | ·312 | 0·43 |
| 5217 | A | 9 17 39 4·9 | 1 58 20·904 | 54 21 21·90 | + 1·618 | 13·50 | 0·299 | 0·47 | 0·318 | 0·41 |
| 5218 | A | 10 5 59 41·6 | 1 57 17·586 | 54 20 58·53 | − 1·575 | 6·57 | − 0·313 | + 0·66 | − 0·312 | + 0·69 |
| 5219 | A | 10 6 24 28·4 | 1 57 15·470 | 54 20 57·48 | 1·503 | 5·39 | 0·315 | 0·69 | 0·308 | 0·57 |
| 5220 | A | 10 6 46 21·7 | 1 57 13·605 | 54 20 56·39 | − 1·425 | + 4·39 | 0·313 | 0·56 | 0·307 | 0·54 |
| 5222 | A | 10 10 51 54·2 | 1 56 52·654 | 54 20 44·38 | + 0·099 | − 1·23 | 0·327 | 0·33 | 0·325 | 0·46 |
| 5223 | A | 10 11 11 55·9 | 1 56 50·968 | 54 20 43·45 | 0·246 | − 1·12 | 0·306 | 0·44 | 0·303 | 0·47 |
| 811 | T | 10 16 55 56·6 | 1 56 21·683 | 54 20 23·67 | 1·676 | + 11·64 | ... | ... | − 0·313 | + 0·44 |
| 812 | T | 10 17 20 46·9 | 1 56 19·583 | 54 20 22·15 | + 1·650 | 12·98 | ... | ... | 0·301 | 0·48 |
| 5226 | A | 11 6 29 6·4 | 1 55 12·710 | 54 19 22·95 | − 1·478 | 4·95 | − 0·324 | + 0·52 | 0·313 | 0·53 |
| 5227 | A | 11 6 52 12·8 | 1 55 10·780 | 54 19 20·80 | 1·388 | 3·92 | 0·301 | 0·39 | 0·293 | 0·31 |
| 5228 | A | 11 7 15 15·3 | 1 55 8·826 | 54 19 18·74 | 1·284 | + 2·96 | 0·307 | 0·36 | 0·298 | 0·37 |
| 5229 | A | 11 10 15 53·1 | 1 54 53·562 | 54 19 2·14 | 0·121 | − 1·22 | − 0·312 | + 0·24 | − 0·315 | + 0·37 |
| 5230 | A | 13 5 35 1·5 | 1 51 16·808 | 54 13 16·34 | 1·623 | + 7·12 | 0·293 | 0·15 | 0·283 | 0·18 |
| 817 | T | 13 5 47 10·9 | 1 51 15·790 | 54 13 14·31 | 1·592 | 6·51 | ... | ... | 0·312 | 0·21 |
| 5231 | A | 13 6 1 30·3 | 1 51 14·600 | 54 13 11·92 | 1·550 | 5·81 | 0·324 | 0·29 | 0·318 | 0·24 |
| 818 | T | 13 6 8 50·7 | 1 51 14·018 | 54 13 10·65 | 1·526 | 5·45 | ... | ... | 0·303 | 0·29 |
| 5232 | A | 13 6 28 5·0 | 1 51 12·436 | 54 13 7·49 | − 1·456 | 4·61 | − 0·304 | + 0·47 | − 0·307 | + 0·41 |
| 819 | T | 13 16 1 47·1 | 1 50 25·472 | 54 11 22·66 | + 1·708 | 10·06 | ... | ... | 0·304 | 0·20 |
| 5234 | A | 13 16 16 39·9 | 1 50 24·264 | 54 11 19·80 | 1·713 | 10·85 | 0·298 | 0·18 | 0·303 | 0·25 |
| 820 | T | 13 17 1 47·0 | 1 50 19·587 | 54 11 11·28 | 1·684 | 13·25 | ... | ... | 0·298 | 0·32 |
| 5235 | A | 13 17 15 22·3 | 1 50 19·474 | 54 11 8·49 | 1·662 | 13·96 | 0·304 | 0·15 | 0·316 | 0·13 |
| 5236 | A | 13 17 44 32·2 | 1 50 17·111 | 54 11 2·94 | 1·595 | 15·45 | − 0·292 | + 0·24 | − 0·289 | + 0·18 |
| 821 | T | 14 12 38 34·9 | 1 48 45·523 | 54 7 3·69 | 1·016 | 1·16 | ... | ... | 0·291 | 0·11 |
| 5237 | A | 14 13 45 49·9 | 1 48 40·127 | 54 6 48·25 | 1·375 | 3·69 | 0·306 | 0·05 | 0·314 | 0·17 |
| 5238 | A | 14 14 13 29·2 | 1 48 37·934 | 54 6 41·90 | + 1·490 | 4·93 | 0·288 | 0·06 | 0·283 | 0·09 |
| 5239 | A | 15 6 2 24·3 | 1 47 22·679 | 54 2 50·06 | − 1·523 | 5·34 | 0·296 | 0·33 | 0·303 | 0·18 |
| 822 | T | 15 6 3 45·3 | 1 47 22·543 | 54 2 49·64 | 1·519 | 5·28 | ... | ... | − 0·325 | + 0·26 |
| 5240 | A | 15 6 23 18·8 | 1 47 21·020 | 54 2 44·62 | 1·443 | 4·37 | − 0·311 | 0·31 | 0·308 | 0·18 |
| 823 | T | 15 6 28 14·3 | 1 47 20·603 | 54 2 43·24 | 1·422 | 4·15 | ... | ... | 0·341 | 0·20 |
| 5241 | A | 15 6 44 44·0 | 1 47 19·338 | 54 2 39·15 | 1·347 | + 3·44 | 0·310 | + 0·40 | 0·311 | 0·31 |
| 5242 | A | 15 9 18 36·2 | 1 47 7·247 | 54 1 58·35 | 0·378 | − 0·87 | 0·328 | − 0·06 | 0·328 | 0·02 |
| 5243 | A | 15 9 41 3·4 | 1 47 5·517 | 54 1 52·46 | 0·211 | 1·07 | − 0·299 | − 0·01 | − 0·303 | + 0·12 |
| 5248 | A | 18 9 14 42·6 | 1 41 44·531 | 53 38 26·28 | 0·283 | 0·85 | 0·312 | 0·17 | 0·318 | − 0·13 |
| 5249 | A | 18 9 43 46·1 | 1 41 42·469 | 53 38 15·05 | − 0·062 | 1·01 | 0·317 | 0·09 | 0·318 | 0·09 |
| 5250 | A | 18 10 9 53·1 | 1 41 40·581 | 53 20 4·84 | + 0·138 | − 0·98 | 0·359 | 0·11 | 0·352 | 0·16 |
| 5253 | A | 22 5 51 35·2 | 1 35 45·746 | 52 55 25·78 | − 1·437 | + 4·65 | 0·340 | 0·06 | 0·338 | 0·15 |
| 5254 | A | 22 6 15 41·5 | 1 35 44·367 | 52 55 12·85 | − 1·322 | 3·60 | − 0·327 | − 0·04 | − 0·320 | − 0·12 |
| 5256 | A | 22 13 21 31·5 | 1 35 20·025 | 52 51 21·53 | + 1·494 | 5·30 | 0·329 | 0·04 | 0·325 | 0·05 |
| 5257 | A | 22 13 48 21·6 | 1 35 18·497 | 52 51 6·73 | 1·592 | 6·61 | 0·340 | 0·11 | 0·335 | 0·06 |
| 5258 | A | 22 14 11 13·0 | 1 35 17·220 | 52 50 54·07 | 1·659 | 7·79 | 0·325 | 0·21 | 0·335 | 0·11 |
| 5259 | A | 22 15 43 38·4 | 1 35 12·024 | 52 50 3·20 | 1·756 | 12·85 | 0·314 | 0·16 | 0·324 | 0·11 |

## TABLE X.—Observed Places of Eros and Deduced Corrections to Tabular Places from Photographs taken with the Astrographic and Thompson Refractors.

| No. of Plate. | Telescope. | Date and G.M.T. 1900. | True Equinox of the Date. | | Parallax. | | Correction to Tabular Place. | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | R.A. | Dec. N. | R.A. | Dec. | From Reference Stars. | | From Comparison Stars. | |
| | | | | | | | R.A. | Dec. | R.A. | Dec. |
| | | d h m s | h m s | ° ′ ″ | s | ″ | s | ″ | s | ″ |
| 5260 | A | Nov. 22 16 6 5·1 | 1 35 10·747 | 52 49 50·90 | + 1·736 | + 14·10 | − 0·330 | − 0·06 | − 0·337 | − 0·05 |
| 5261 | A | 23 5 23 53·9 | 1 34 26·814 | 52 42 22·12 | − 1·530 | 5·81 | 0·330 | − 0·09 | 0·332 | 0·09 |
| 5262 | A | 23 5 46 40·6 | 1 34 25·591 | 52 42 9·18 | 1·436 | + 4·74 | 0·325 | + 0·01 | 0·320 | 0·06 |
| 5263 | A | 23 9 16 34·1 | 1 34 14·320 | 52 40 8·04 | − 0·070 | − 0·61 | 0·340 | − 0·38 | 0·328 | 0·34 |
| 5264 | A | 23 9 41 40·5 | 1 34 12·995 | 52 39 53·63 | + 0·131 | − 0·58 | 0·327 | 0·27 | 0·319 | 0·18 |
| 5267 | A | 25 7 3 11·8 | 1 31 58·568 | 52 12 12·11 | − 0·956 | + 1·64 | − 0·320 | − 0·25 | − 0·321 | − 0·33 |
| 5268 | A | 25 8 24 56·0 | 1 31 54·855 | 52 11 19·37 | 0·379 | − 0·11 | 0·329 | 0·45 | 0·319 | 0·45 |
| 5269 | A | 25 8 46 32·5 | 1 31 53·888 | 52 11 5·43 | 0·215 | − 0·31 | 0·320 | 0·48 | 0·322 | 0·39 |
| 5270 | A | 27 5 7 18·3 | 1 30 4·542 | 51 41 15·10 | 1·513 | + 6·14 | 0·289 | 0·43 | 0·297 | 0·40 |
| 844 | T | 27 5 12 17·5 | 1 30 4·333 | 51 41 11·63 | 1·493 | 5·90 | ... | ... | 0·313 | 0·40 |
| 5271 | A | 27 5 29 0·8 | 1 30 3·694 | 51 40 59·14 | 1·417 | 5·08 | − 0·299 | − 0·50 | − 0·302 | − 0·48 |
| 845 | T | 27 5 35 4·8 | 1 30 3·493 | 51 40 55·58 | 1·395 | 4·85 | ... | ... | 0·311 | 0·48 |
| 5272 | A | 27 5 50 44·4 | 1 30 2·923 | 51 40 44·66 | 1·318 | + 4·17 | 0·303 | 0·41 | 0·307 | 0·37 |
| 5273 | A | 27 8 37 1·1 | 1 29 56·828 | 51 38 47·68 | 0·212 | − 0·07 | 0·309 | 0·42 | 0·306 | 0·49 |
| 5274 | A | 27 9 1 44·7 | 1 29 55·938 | 51 38 30·15 | − 0·022 | − 0·17 | 0·301 | 0·51 | 0·299 | 0·53 |
| 846 | T | 27 9 51 47·1 | 1 29 54·115 | 51 37 54·88 | + 0·359 | + 0·11 | ... | ... | − 0·312 | − 0·44 |
| 847 | T | 27 10 39 10·7 | 1 29 52·419 | 51 37 21·41 | 0·706 | 0·93 | ... | ... | 0·299 | 0·40 |
| 5275 | A | 29 9 33 16·2 | 1 28 23·704 | 51 2 52·97 | 0·289 | 0·29 | − 0·288 | − 0·50 | 0·300 | 0·65 |
| 5276 | A | Dec. 6 12 48 14·3 | 1 26 37·356 | 48 38 27·15 | 1·557 | 8·74 | 0·284 | 0·87 | 0·280 | 0·91 |
| 848 | T | 6 12 59 43·8 | 1 26 37·410 | 48 38 16·58 | 1·591 | 9·32 | ... | ... | 0·297 | 0·93 |
| 5277 | A | 6 14 21 5·3 | 1 26 37·956 | 48 37 2·09 | 1·707 | + 13·75 | − 0·275 | − 0·97 | − 0·276 | − 0·94 |
| 849 | T | 6 14 28 8·8 | 1 26 37·984 | 48 36 55·73 | 1·707 | 14·14 | ... | ... | 0·294 | 0·87 |
| 5278 | A | 6 14 42 47·0 | 1 26 38·080 | 48 36 42·26 | 1·702 | 14·96 | 0·295 | 0·93 | 0·293 | 0·89 |
| 850 | T | 6 15 18 51·6 | 1 26 38·333 | 48 36 9·23 | + 1·660 | 16·94 | ... | ... | 0·284 | 0·92 |
| 5279 | A | 7 7 32 55·4 | 1 26 46·449 | 48 21 11·29 | − 0·364 | 1·68 | 0·264 | 0·90 | 0·258 | 0·85 |
| 5280 | A | 7 8 5 6·0 | 1 26 46·759 | 48 20 41·51 | 0·127 | + 1·43 | − 0·273 | − 0·84 | − 0·270 | − 0·86 |
| 851 | T | 7 8 21 52·9 | 1 26 46·925 | 48 20 25·97 | − 0·003 | 1·40 | ... | ... | 0·275 | 0·79 |
| 852 | T | 7 8 54 25·7 | 1 26 47·253 | 48 19 55·71 | + 0·239 | 1·53 | ... | ... | 0·275 | 0·84 |
| 5283 | A | 7 13 33 43·0 | 1 26 50·217 | 48 15 35·89 | 1·664 | 11·49 | 0·262 | 0·95 | 0·271 | 0·90 |
| 853 | T | 7 14 29 32·4 | 1 26 50·804 | 48 14 43·95 | 1·698 | 14·57 | ... | ... | 0·295 | 0·86 |
| 854 | T | 7 15 13 45·2 | 1 26 51·332 | 48 14 2·75 | + 1·655 | + 16·99 | ... | ... | − 0·264 | − 0·83 |
| 5285 | A | 9 5 11 23·3 | 1 27 25·345 | 47 38 11·19 | − 1·215 | 5·59 | − 0·269 | − 0·52 | 0·263 | 0·61 |
| 5286 | A | 9 12 16 32·9 | 1 27 33·495 | 47 31 23·35 | + 1·467 | 8·19 | 0·273 | 0·82 | 0·274 | 0·86 |
| 855 | T | 10 5 55 53·0 | 1 27 56·265 | 47 14 20·55 | − 0·940 | 4·08 | ... | ... | 0·270 | 0·65 |
| 856 | T | 10 6 22 23·7 | 1 27 56·874 | 47 13 54·70 | 0·772 | 3·34 | ... | ... | 0·276 | 0·71 |
| 5287 | A | 10 7 48 24·9 | 1 27 58·889 | 47 12 31·22 | 0·163 | + 2·01 | − 0·269 | − 0·64 | − 0·266 | − 0·70 |
| 858 | T | 13 6 39 13·3 | 1 30 6·374 | 46 2 24·38 | 0·586 | 3·33 | ... | ... | 0·265 | 0·68 |
| 5288 | A | 13 6 56 37·8 | 1 30 6·995 | 46 2 6·57 | 0·466 | 3·02 | 0·279 | 0·97 | 0·276 | 0·86 |
| 859 | T | 13 7 1 42·2 | 1 30 7·187 | 46 2 1·62 | 0·431 | 2·95 | ... | ... | 0·272 | 0·81 |
| 5289 | A | 13 7 17 59·2 | 1 30 7·788 | 46 1 45·12 | 0·316 | 2·75 | 0·265 | 0·93 | 0·262 | 0·91 |
| 860 | T | 13 7 23 46·4 | 1 30 7·998 | 46 1 39·35 | 0·275 | + 2·70 | ... | ... | − 0·255 | − 0·87 |
| 5290 | A | 13 7 41 51·3 | 1 30 8·661 | 46 1 21·21 | − 0·145 | 2·58 | − 0·265 | − 0·81 | 0·264 | 0·85 |
| 5294 | A | 13 12 49 37·3 | 1 30 20·069 | 45 56 11·02 | + 1·571 | 11·14 | 0·254 | 0·86 | 0·243 | 0·85 |
| 861 | T | 13 13 48 23·3 | 1 30 22·292 | 45 55 11·63 | 1·649 | 14·26 | ... | ... | 0·252 | 0·95 |
| 5297 | A | 13 14 13 32·1 | 1 30 23·224 | 45 54 46·29 | + 1·649 | 15·62 | 0·269 | 0·91 | 0·271 | 0·95 |
| 5299 | A | 15 5 13 58·6 | 1 31 59·718 | 45 15 5·93 | − 1·065 | + 5·86 | − 0·270 | − 0·91 | − 0·283 | − 0·85 |
| 863 | T | 15 5 34 20·1 | 1 32 0·641 | 45 14 45·28 | 0·950 | 5·19 | ... | ... | 0·257 | 0·70 |
| 5300 | A | 15 5 38 42·6 | 1 32 0·847 | 45 14 40·73 | 0·925 | 5·06 | 0·247 | 0·77 | 0·256 | 0·71 |
| 864 | T | 15 5 57 59·7 | 1 32 1·701 | 45 14 20·93 | 0·808 | 4·51 | ... | ... | 0·256 | 0·81 |
| 865 | T | 15 6 24 17·8 | 1 32 2·869 | 45 13 53·93 | 0·639 | 3·89 | ... | ... | 0·267 | 0·86 |

TABLE X.—Observed Places of Eros and Deduced Corrections to Tabular Places from Photographs taken with the Astrographic and Thompson Refractors.

| No. of Plate. | Telescope. | Date and G.M.T. 1900 and 1901. | True Equinox of the Date. | | Parallax. | | Correction to Tabular Place. | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | From Reference Stars. | | From Comparison Stars. | |
| | | | R.A. | Dec. N. | R.A. | Dec. | R.A. | Dec. | R.A. | Dec. |
| | | d h m s | h m s | ° ′ ″ | s | ″ | s | ″ | s | ″ |
| 866 | T | Dec. 15 11 54 1·7 | 1 32 17·831 | 45 8 15·59 | + 1·409 | + 9·02 | ... | ... | − 0·254 | − 0·96 |
| 5304 | A | 15 12 7 39·2 | 1 32 18·462 | 45 8 1·80 | 1·456 | 9·66 | − 0·248 | − 0·76 | 0·252 | 0·66 |
| 5306 | A | 15 13 33 16·7 | 1 32 22·395 | 45 6 33·72 | 1·626 | 14·04 | 0·252 | 0·90 | 0·256 | 0·85 |
| 867 | T | 15 13 55 26·8 | 1 32 23·406 | 45 6 11·23 | 1·633 | 15·59 | ... | ... | 0·263 | 0·62 |
| 5307 | A | 15 14 2 50·0 | 1 32 23·772 | 45 6 3·44 | 1·632 | 15·63 | 0·239 | 0·92 | 0·233 | 0·94 |
| 868 | T | 15 14 18 17·9 | 1 32 24·451 | 45 5 47·61 | + 1·625 | + 16·46 | ... | ... | − 0·275 | − 0·75 |
| 5308 | A | 16 5 26 28·5 | 1 33 7·649 | 44 50 12·05 | − 0·974 | 5·53 | − 0·250 | − 0·78 | 0·245 | 0·81 |
| 5309 | A | 17 5 14 56·3 | 1 34 20·307 | 44 25 31·91 | 1·018 | 6·01 | 0·260 | 0·61 | 0·261 | 0·67 |
| 869 | T | 17 5 26 31·6 | 1 34 20·917 | 44 25 19·40 | 0·953 | 5·20 | ... | ... | 0·263 | 1·07 |
| 5310 | A | 17 5 44 53·1 | 1 34 21·893 | 44 25 0·81 | 0·845 | 5·10 | 0·260 | 0·57 | 0·254 | 0·64 |
| 870 | T | 17 5 50 12·0 | 1 34 22·185 | 44 24 55·12 | 0·811 | + 4·97 | ... | ... | − 0·249 | − 0·73 |
| 871 | T | 17 6 9 37·7 | 1 34 23·212 | 44 24 34·96 | 0·691 | 4·48 | ... | ... | 0·252 | 0·68 |
| 5313 | A | 17 7 29 4·9 | 1 34 27·417 | 44 23 12·30 | 0·152 | 3·39 | − 0·271 | − 0·69 | 0·261 | 0·65 |
| 872 | T | 19 5 12 9·1 | 1 37 4·026 | 43 35 21·85 | 0·993 | 6·31 | ... | ... | 0·245 | 0·61 |
| 873 | T | 19 5 32 37·0 | 1 37 5·261 | 43 34 0·38 | 0·877 | 5·69 | ... | ... | 0·256 | 0·55 |
| 5314 | A | 19 5 44 2·4 | 1 37 5·953 | 43 34 48·19 | 0·809 | + 5·37 | − 0·258 | − 0·73 | − 0·254 | − 0·78 |
| 874 | T | 19 5 54 12·2 | 1 37 6·565 | 43 34 37·68 | 0·747 | 5·11 | ... | ... | 0·257 | 0·54 |
| 5315 | A | 19 6 2 41·9 | 1 37 7·082 | 43 34 28·63 | 0·694 | 4·81 | 0·268 | 0·66 | 0·264 | 0·71 |
| 5318 | A | 19 7 26 21·2 | 1 37 12·210 | 43 33 0·59 | − 0·133 | 3·78 | 0·251 | 0·67 | 0·252 | 0·54 |
| 5319 | A | 19 7 46 24·2 | 1 37 13·434 | 43 32 39·76 | + 0·007 | 3·75 | 0·255 | 0·40 | 0·254 | 0·39 |
| 5322 | A | 19 12 10 43·6 | 1 37 29·739 | 43 28 1·11 | 1·463 | + 10·96 | − 0·238 | − 0·73 | − 0·240 | − 0·76 |
| 875 | T | 19 12 19 53·2 | 1 37 30·273 | 43 27 51·54 | 1·488 | 11·40 | ... | ... | 0·272 | 0·65 |
| 876 | T | 19 12 56 52·0 | 1 37 32·571 | 43 27 12·64 | 1·561 | 13·26 | ... | ... | 0·268 | 0·59 |
| 5324 | A | 19 13 35 6·9 | 1 37 34·974 | 43 26 32·27 | 1·594 | 15·24 | 0·243 | 0·66 | 0·249 | 0·68 |
| 877 | T | 19 14 20 24·7 | 1 37 37·790 | 43 25 44·46 | 1·576 | 17·59 | ... | ... | 0·247 | 0·74 |
| 5326 | A | 20 13 57 59·0 | 1 39 8·843 | 43 0 47·11 | + 1·583 | + 16·67 | − 0·231 | − 0·81 | ... | ... |
| 878 | T | 21 5 12 8·4 | 1 40 10·389 | 42 44 38·38 | − 0·955 | 6·54 | ... | ... | − 0·214 | − 0·70 |
| 879 | T | 21 5 30 19·7 | 1 40 11·616 | 42 44 19·02 | − 0·852 | 6·00 | ... | ... | 0·234 | 0·76 |
| 880 | T | 21 11 47 4·9 | 1 40 37·624 | 42 37 38·91 | + 1·389 | 10·39 | ... | ... | 0·238 | 0·90 |
| 5327 | A | 21 12 18 27·7 | 1 40 39·823 | 42 37 5·57 | 1·477 | 11·86 | 0·222 | 0·91 | 0·222 | 0·91 |
| 881 | T | 21 12 32 55·2 | 1 40 40·810 | 42 36 50·37 | 1·510 | + 12·58 | ... | ... | − 0·242 | − 0·75 |
| 5328 | A | 21 12 48 4·9 | 1 40 41·883 | 42 36 34·11 | 1·536 | 13·33 | − 0·226 | − 0·90 | 0·227 | 0·88 |
| 882 | T | 21 13 16 17·2 | 1 42 43·850 | 42 37 4·38 | 1·568 | 14·77 | ... | ... | 0·225 | 0·67 |
| 5329 | A | 21 13 29 38·6 | 1 40 44·781 | 42 35 50·11 | 1·575 | 15·45 | 0·226 | 0·75 | 0·224 | 0·78 |
| 5330 | A | 24 9 59 26·3 | 1 45 53·050 | 41 22 45·12 | + 0·918 | 7·04 | 0·217 | 0·97 | ... | ... |
| 883 | T | 26 6 49 47·8 | 1 49 37·144 | 40 34 40·41 | − 0·270 | + 5·36 | ... | ... | − 0·223 | − 0·95 |
| 884 | T | 26 7 15 48·5 | 1 49 39·402 | 40 34 12·57 | − 0·097 | 5·21 | ... | ... | 0·214 | 0·86 |
| 5331 | A | 26 9 58 31·9 | 1 49 53·518 | 40 31 17·69 | + 0·923 | 7·51 | − 0·204 | − 1·03 | ... | ... |
| 5333 | A | 28 8 48 27·8 | 1 54 6·503 | 39 40 57·92 | 0·528 | 6·31 | 0·195 | 1·15 | 0·203 | 1·10 |
| 5334 | A | 28 9 17 53·8 | 1 54 9·238 | 39 40 26·20 | 0·705 | 6·88 | 0·202 | 1·22 | 0·203 | 1·18 |
| 885 | T | 28 9 19 27·7 | 1 54 9·367 | 39 40 24·72 | 0·714 | + 6·94 | ... | ... | − 0·219 | − 1·01 |
| 886 | T | 28 12 11 39·1 | 1 54 25·438 | 39 37 19·63 | 1·429 | 13·19 | ... | ... | 0·226 | 0·93 |
| 5335 | A | 28 12 30 33·7 | 1 54 27·208 | 39 36 59·42 | 1·464 | 14·08 | − 0·226 | − 0·81 | 0·218 | 0·85 |
| 5336 | A | 28 13 9 51·1 | 1 54 30·900 | 39 36 16·95 | 1·505 | 16·01 | 0·213 | 1·03 | 0·217 | 1·07 |
| 5337 | A | 29 8 12 14·3 | 1 56 19·320 | 39 15 48·28 | 0·307 | 6·03 | 0·211 | 1·02 | 0·212 | 1·08 |
| 887 | T | 29 8 23 53·0 | 1 56 20·422 | 39 15 35·73 | 0·381 | + 6·17 | ... | ... | − 0·220 | − 1·04 |
| 5338 | A | 29 8 36 57·5 | 1 56 21·682 | 39 15 21·81 | 0·464 | 6·35 | − 0·217 | − 0·90 | 0·210 | 0·85 |
| 889 | T | Jan. 2 12 27 57·3 | 2 6 33·341 | 37 27 58·15 | 1·424 | 14·89 | ... | ... | 0·240 | 0·92 |
| 890 | T | 2 12 53 58·1 | 2 6 36·185 | 37 27 30·27 | + 1·452 | 16·07 | ... | ... | 0·200 | 0·84 |
| 5341 | A | 4 5 36 30·8 | 2 11 4·790 | 36 43 45·49 | − 0·610 | 7·95 | 0·209 | 0·92 | 0·205 | 0·96 |

TABLE X.—Observed Places of Eros and Deduced Corrections to Tabular Places from Photographs taken with the Astrographic and Thompson Refractors.

| No. of Plate. | Telescope. | Date and G.M.T. 1901. | True Equinox of the Date. |  | Parallax. |  | Correction to Tabular Place. |  |  |  |
|---|---|---|---|---|---|---|---|---|---|---|
|  |  |  |  |  |  |  | From Reference Stars. |  | From Comparison Stars. |  |
|  |  |  | R.A. | Dec. N. | R.A. | Dec. | R.A. | Dec. | R.A. | Dec. |
|  |  | d h m s | h m s | ° ′ ″ | s | ″ | s | ″ | s | ″ |
| 5342 | A | Jan. 4 6 5 49·7 | 2 11 8·064 | 36 43 14·00 | − 0·444 | + 7·48 | − 0·222 | − 0·93 | − 0·223 | − 0·95 |
| 891 | T | 4 6 13 24·6 | 2 11 9·933 | 36 43 5·57 | 0·396 | 7·38 | ... | ... | 0·202 | 1·23 |
| 5343 | A | 4 6 35 37·5 | 2 11 11·405 | 36 42 42·01 | 0·256 | 7·15 | 0·223 | 0·91 | 0·222 | 0·87 |
| 892 | T | 4 6 43 1·6 | 2 11 12·245 | 36 42 33·96 | − 0·210 | 7·10 | ... | ... | 0·213 | 1·01 |
| 5344 | A | 5 8 11 16·3 | 2 14 5·688 | 36 15 13·05 | + 0·347 | 7·48 | 0·176 | 0·92 | 0·161 | 1·06 |
| 894 | T | 5 8 33 48·9 | 2 14 8·269 | 36 14 48·61 | 0·482 | + 7·79 | ... | ... | − 0·182 | − 1·16 |
| 5345 | A | 5 8 38 15·0 | 2 14 8·779 | 36 14 43·80 | 0·508 | 7·90 | − 0·181 | − 1·21 | 0·180 | 1·05 |
| 895 | T | 5 8 58 52·0 | 2 14 11·162 | 36 14 21·75 | 0·627 | 8·23 | ... | ... | 0·164 | 1·13 |
| 896 | T | 5 11 44 9·4 | 2 14 30·140 | 36 11 24·25 | 1·320 | 13·50 | ... | ... | 0·184 | 1·20 |
| 5346 | A | 5 11 50 49·6 | 2 14 30·902 | 36 11 17·12 | 1·336 | 13·78 | 0·190 | 1·17 | 0·177 | 1·14 |
| 5347 | A | 5 12 30 14·8 | 2 14 35·457 | 36 10 35·12 | 1·404 | + 15·47 | 0·167 | 0·86 | − 0·168 | − 0·88 |
| 5348 | A | 5 12 54 26·3 | 2 14 38·240 | 36 10 9·07 | 1·425 | 16·54 | − 0·176 | − 0·94 | 0·178 | 1·09 |
| 897 | T | 5 12 57 33·3 | 2 14 38·692 | 36 10 4·77 | 1·427 | 16·68 | ... | ... | 0·159 | 1·10 |
| 898 | T | 5 13 28 19·8 | 2 14 42·162 | 36 9 32·64 | + 1·428 | 18·05 | ... | ... | − 0·159 | − 1·00 |
| 5349 | A | 8 6 12 2·1 | 2 22 21·553 | 35 0 8·50 | − 0·363 | 8·08 | + 0·031 | + 1·28 | + 0·025 | + 1·28 |
| 5350 | A | 8 12 16 51·6 | 2 23 5·879 | 34 53 37·81 | + 1·362 | + 15·27 | + 0·027 | + 1·36 | + 0·027 | + 1·34 |
| 5351 | A | 8 12 39 55·5 | 2 23 8·703 | 34 53 13·33 | 1·389 | 16·29 | 0·042 | 1·58 | 0·021 | 1·40 |
| 5352 | A | 8 13 3 0·4 | 2 23 11·521 | 34 52 48·55 | + 1·401 | 17·29 | 0·049 | 1·51 | 0·044 | 1·44 |
| 5353 | A | 9 5 39 28·0 | 2 25 13·619 | 34 35 1·86 | − 0·543 | 8·69 | 0·021 | 1·36 | 0·012 | 1·27 |
| 899 | T | 9 6 15 12·2 | 2 25 18·005 | 34 34 23·67 | 0·336 | 8·21 | ... | ... | 0·001 | 1·40 |
| 900 | T | 9 6 39 13·3 | 2 25 20·967 | 34 33 58·07 | 0·193 | + 8·03 | ... | ... | 0·000 | + 1·22 |
| 901 | T | 9 6 54 53·6 | 2 25 22·917 | 34 33 41·08 | − 0·098 | 7·95 | ... | ... | + 0·017 | 1·28 |
| 5354 | A | 9 7 58 8·6 | 2 25 30·719 | 34 32 33·54 | + 0·286 | 8·14 | + 0·012 | + 1·40 | 0·023 | 1·41 |
| 5355 | A | 9 8 14 46·1 | 2 25 32·768 | 34 32 15·83 | 0·384 | 8·32 | 0·007 | 1·48 | 0·007 | 1·60 |
| 5356 | A | 9 12 38 15·5 | 2 26 5·366 | 34 27 33·68 | 1·378 | 16·34 | 0·015 | 1·19 | 0·013 | 1·27 |
| 5359 | A | 13 12 13 57·2 | 2 38 17·936 | 32 50 33·02 | + 1·312 | + 15·80 | + 0·008 | + 0·94 | + 0·009 | + 0·94 |
| 904 | T | 14 5 41 19·9 | 2 40 36·231 | 32 26 59·08 | − 0·490 | 9·43 | .. | ... | 0·020 | 0·96 |
| 905 | T | 14 5 59 58·1 | 2 40 38·709 | 32 26 39·28 | − 0·386 | 9·19 | ... | ... | 0·026 | 0·97 |
| 5365 | A | 14 11 55 28·1 | 2 41 25·929 | 32 20 21·43 | + 1·281 | 15·19 | 0·007 | 0·91 | 0·015 | 0·94 |
| 5366 | A | 14 12 20 27·9 | 2 41 29·294 | 32 19 55·07 | 1·317 | 16·15 | + 0·045 | 1·11 | 0·039 | 1·18 |
| 906 | T | 14 12 34 54·3 | 2 41 31·206 | 32 19 39·67 | 1·332 | + 16·72 | ... | ... | + 0·034 | + 1·05 |
| 5367 | A | 14 12 45 2·6 | 2 41 32·514 | 32 19 29·02 | 1·334 | 17·12 | − 0·008 | + 1·17 | − 0·018 | 1·23 |
| 907 | T | 14 12 57 35·4 | 2 41 34·216 | 32 19 15·57 | + 1·343 | 17·62 | ... | ... | + 0·024 | 1·05 |
| 5368 | A | 15 5 53 8·7 | 2 43 50·034 | 32 1 17·21 | − 0·417 | 9·43 | + 0·007 | 1·03 | 0·012 | 1·05 |
| 908 | T | 15 6 9 48·2 | 2 43 52·271 | 32 0 59·68 | 0·324 | 9·27 | ... | ... | 0·005 | 1·17 |
| 5369 | A | 15 6 16 4·1 | 2 43 53·122 | 32 0 52·97 | 0·289 | + 9·19 | + 0·014 | + 1·12 | 0·013 | + 1·10 |
| 909 | T | 15 6 28 39·9 | 2 43 54·815 | 32 0 39·53 | 0·216 | 9·10 | ... | ... | 0·015 | 1·04 |
| 910 | T | 15 6 47 25·1 | 2 43 57·327 | 32 0 19·43 | − 0·107 | 9·01 | ... | ... | 0·006 | 0·84 |
| 912 | T | 15 11 41 32·2 | 2 44 36·912 | 31 55 7·67 | + 1·246 | 14·78 | ... | ... | 0·012 | 1·10 |
| 913 | T | 15 12 1 47·3 | 2 44 39·646 | 31 54 46·22 | 1·283 | 15·53 | ... | ... | + 0·017 | 1·13 |
| 5371 | A | 15 12 6 57·1 | 2 44 40·322 | 31 54 40·92 | 1·291 | + 15·72 | − 0·003 | + 1·31 | − 0·003 | + 1·25 |
| 914 | T | 15 12 20 54·1 | 2 44 42·228 | 31 54 25·83 | 1·309 | 16·26 | ... | ... | + 0·023 | 1·02 |
| 5372 | A | 15 12 25 59·2 | 2 44 42·869 | 31 54 20·60 | 1·315 | 16·46 | − 0·022 | 1·18 | − 0·027 | 1·14 |
| 915 | T | 17 11 23 17·3 | 2 51 6·966 | 31 4 37·62 | 1·188 | 14·31 | ... | ... | − 0·023 | 0·92 |
| 5379 | A | 17 11 50 9·0 | 2 51 10·697 | 31 4 8·96 | 1·248 | 15·29 | + 0·005 | 0·65 | ... | ... |

TABLE X.—Observed Places of Eros and Deduced Corrections to Tabular Places from Photographs taken with the Astrographic and Thompson Refractors.

| No. of Plate. | Telescope. | Date and G.M.T. 1901. | True Equinox of the Date. | | Parallax. | | Correction to Tabular Place. | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | From Reference Stars. | | From Comparison Stars. | |
| | | | R.A. | Dec. N. | R.A. | Dec. | R.A. | Dec. | R.A. | Dec. |
| | | d h m s | h m s | ° ′ ″ | s | ″ | s | ″ | s | ″ |
| 917 | T | Jan. 18 6 19 41·1 | 2 53 44·315 | 30 44 37·69 | − 0·251 | + 9·63 | ... | ... | + 0·021 | + 0·85 |
| 918 | T | 18 6 47 33·8 | 2 53 48·192 | 30 44 8·14 | − 0·093 | 9·49 | ... | ... | 0·023 | 0·71 |
| 919 | T | 18 7 24 41·2 | 2 53 53·353 | 30 43 29·03 | + 0·119 | 9·51 | ... | ... | + 0·021 | 0·76 |
| 920 | T | 18 11 26 13·7 | 2 54 26·940 | 30 39 14·18 | 1·190 | 14·55 | ... | ... | − 0·013 | 0·65 |
| 921 | T | 22 8 29 39·3 | 3 7 39·551 | 29 1 33·83 | 0·472 | 10·76 | ... | ... | + 0·037 | 0·85 |
| 922 | T | 22 8 51 25·4 | 3 7 42·690 | 29 1 11·19 | 0·585 | + 11·00 | ... | ... | + 0·042 | + 0·94 |
| 925 | T | 24 11 20 53·2 | 3 15 3·834 | 28 8 35·51 | 1·132 | 14·89 | ... | ... | − 0·011 | 0·17 |
| 926 | T | 24 11 56 39·1 | 3 15 9·081 | 28 7 58·45 | 1·200 | 16·03 | ... | ... | − 0·013 | 0·24 |
| 5390 | A | 24 12 6 20·5 | 3 15 10·520 | 28 7 48·53 | + 1·214 | 16·61 | + 0·003 | + 0·38 | ... | ... |
| 927 | T | 28 6 26 24·1 | 3 28 35·972 | 26 34 33·36 | − 0·174 | 10·95 | ... | .. | + 0·003 | 0·08 |
| 928 | T | 29 8 28 52·4 | 3 32 31·339 | 26 7 52·84 | + 0·460 | + 11·55 | ... | ... | + 0·020 | 0·02 |
| 930 | T | 29 11 48 34·9 | 3 33 1·488 | 26 4 28·73 | 1·146 | 15·99 | ... | ... | − 0·004 | + 0·06 |
| 5394 | A | Feb. 1 7 46 38·9 | 3 43 21·461 | 24 55 21·27 | 0·247 | 11·49 | − 0·009 | − 0·26 | ... | ... |
| 931 | T | 1 7 53 50·8 | 3 43 22·573 | 24 55 14·16 | 0·283 | 11·54 | ... | ... | + 0·003 | − 0·09 |
| 933 | T | 1 9 15 39·0 | 3 43 35·083 | 24 53 51·23 | 0·663 | 12·53 | ... | ... | 0·009 | 0·26 |
| 934 | T | 3 11 58 0·1 | 3 51 21·766 | 24 2 46·31 | 1·115 | + 16·36 | ... | ... | 0·034 | − 0·15 |
| 5397 | A | 3 11 38 8·1 | 3 51 18·688 | 24 3 6·21 | 1·086 | 15·83 | + 0·013 | − 0·18 | ... | ... |
| 935 | T | 3 12 21 33·6 | 3 51 25·396 | 24 2 22·76 | 1·140 | 17·01 | ... | ... | 0·039 | 0·07 |
| 5398 | A | 3 11 56 39·1 | 3 51 21·564 | 24 2 47·91 | 1·114 | 16·32 | 0·040 | + 0·10 | .. | ... |
| 936 | T | 5 11 5 8·8 | 3 58 37·786 | 23 15 41·26 | 1·003 | 15·05 | ... | ... | 0·022 | 0·36 |
| 937 | T | 5 11 29 36·5 | 3 58 41·566 | 23 15 16·92 | + 1·054 | + 15·64 | ... | ... | 0·021 | − 0·36 |
| 938 | T | 6 6 11 48·3 | 4 1 35·160 | 22 56 42·21 | − 0·220 | 11·87 | ... | ... | 0·013 | 0·52 |
| 939 | T | 6 6 37 5·5 | 4 1 39·072 | 22 56 17·04 | − 0·097 | 11·86 | ... | ... | + 0·006 | 0·59 |
| 940 | T | 6 7 23 49·1 | 4 1 46·293 | 22 55 31·06 | + 0·132 | 11·88 | ... | ... | − 0·026 | 0·24 |
| 5407 | A | 6 8 10 49·7 | 4 1 53·596 | 22 54 44·20 | + 0·358 | 12·15 | + 0·016 | − 0·51 | ... | ... |
| 941 | T | 11 6 30 14·6 | 4 20 16·825 | 20 58 51·36 | − 0·120 | + 12·26 | ... | ... | + 0·007 | − 0·70 |
| 942 | T | 11 6 53 53·8 | 4 20 20·515 | 20 58 28·53 | − 0·009 | 12·23 | ... | ... | 0·012 | 0·67 |
| 5409 | A | 11 7 9 26·5 | 4 20 22·942 | 20 58 13·55 | + 0·064 | 12·24 | + 0·016 | − 0·62 | 0·019 | 0·72 |
| 943 | T | 11 10 17 16·8 | 4 20 52·210 | 20 55 11·85 | 0·833 | 14·21 | ... | ... | 0·015 | 0·80 |
| 5412 | A | 11 11 4 0·7 | 4 20 59·513 | 20 54 26·78 | 0·954 | 15·11 | 0·036 | 0·74 | 0·033 | 0·71 |
| 944 | T | 11 11 22 52·0 | 4 21 2·419 | 20 54 8·64 | 0·995 | + 15·51 | ... | ... | 0·004 | − 0·67 |
| 945 | T | 11 11 54 39·5 | 4 21 7·385 | 20 53 37·95 | + 1·042 | 16·22 | ... | ... | 0·015 | 0·66 |
| 5414 | A | 12 6 21 52·9 | 4 23 59·992 | 20 35 51·00 | − 0·157 | 12·35 | 0·034 | − 0·75 | 0·043 | 0·75 |
| 5415 | A | 12 6 42 15·6 | 4 24 3·151 | 20 35 31·11 | − 0·062 | 12·31 | + 0·015 | 1·05 | 0·008 | 1·02 |
| 946 | T | 12 7 1 53·5 | 4 24 6·213 | 20 35 12·65 | + 0·029 | 12·30 | ... | ... | + 0·017 | 0·63 |
| 5416 | A | 12 7 2 10·9 | 4 24 6·239 | 20 35 12·28 | 0·031 | + 12·30 | − 0·002 | − 0·72 | − 0·003 | − 0·75 |
| 947 | T | 12 7 21 43·0 | 4 24 9·322 | 20 34 53·45 | 0·122 | 12·33 | ... | ... | + 0·035 | 0·78 |
| 948 | T | 12 7 42 52·7 | 4 24 12·605 | 20 34 32·85 | + 0·219 | 12·42 | ... | ... | + 0·018 | 1·03 |
| 5420 | A | 13 6 31 18·7 | 4 27 45·984 | 20 12 41·26 | − 0·112 | 12·39 | − 0·016 | 0·98 | − 0·013 | 1·03 |
| 5421 | A | 13 8 26 22·6 | 4 28 3·957 | 20 10 51·48 | + 0·411 | 12·77 | + 0·008 | 0·80 | + 0·011 | 0·81 |
| 949 | T | 13 8 30 23·5 | 4 28 4·586 | 20 10 47·55 | 0·428 | + 12·83 | ... | ... | 0·011 | − 0·89 |
| 5422 | A | 13 8 45 55·5 | 4 28 7·006 | 20 10 32·64 | 0·493 | 12·98 | 0·008 | − 0·96 | 0·006 | 0·81 |
| 5426 | A | 13 11 6 47·6 | 4 28 29·013 | 20 8 18·40 | 0·945 | 15·39 | 0·041 | 0·68 | 0·040 | 0·71 |
| 5427 | A | 13 11 27 41·6 | 4 28 32·247 | 20 7 58·22 | 0·985 | 15·60 | 0·014 | 0·90 | 0·015 | 0·83 |
| 5428 | A | 14 10 32 51·2 | 4 32 8·391 | 19 45 59·94 | 0·857 | 14·53 | 0·048 | 0·68 | 0·050 | 0·67 |

TABLE X.—Observed Places of Eros and Deduced Corrections to Tabular Places from Photographs taken with the Astrographic and Thompson Refractors.

| No. of Plate. | Telescope. | Date and G.M.T. 1901. | True Equinox of the Date. | | Parallax. | | Correction to Tabular Place. | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | From Reference Stars. | | From Comparison Stars. | |
| | | | R.A. | Dec. N. | R.A. | Dec. | R.A. | Dec. | R.A. | Dec. |
| | | d h m s | h m s | ° ′ ″ | s | ″ | s | ″ | s | ″ |
| 952 | T | Feb. 14 10 45 36·1 | 4 32 10·357 | 19 45 47·37 | + 0·889 | + 14·77 | ... | ... | + 0·023 | − 1·15 |
| 5429 | A | 15 6 37 25·3 | 4 35 16·364 | 19 26 59·25 | − 0·081 | 12·49 | + 0·050 | − 1·06 | 0·040 | 0·99 |
| 5430 | A | 15 7 3 8·7 | 4 35 20·327 | 19 26 34·99 | + 0·037 | 12·48 | − 0·001 | 1·03 | 0·002 | 1·03 |
| 5431 | A | 15 7 36 13·8 | 4 35 25·503 | 19 26 4·10 | 0·187 | 12·56 | + 0·012 | 0·69 | 0·013 | 0·63 |
| 954 | T | 17 9 36 35·6 | 4 43 13·702 | 18 39 10·51 | 0·665 | 13·69 | ... | ... | + 0·011 | 1·16 |
| 5434 | A | 17 9 40 13·9 | 4 43 14·282 | 18 39 6·86 | + 0·679 | + 13·74 | + 0·024 | − 1·42 | ... | ... |
| 955 | T | 17 9 57 4·7 | 4 43 16·864 | 18 38 51·55 | 0·733 | 13·98 | ... | ... | − 0·023 | − 1·05 |
| 5436 | A | 20 7 15 20·7 | 4 54 5·373 | 17 34 57·74 | 0·093 | 12·71 | 0·066 | 1·28 | + 0·071 | 1·22 |
| 958 | T | 20 7 24 38·5 | 4 54 6·770 | 17 34 49·15 | 0·134 | 12·73 | ... | ... | 0·015 | 1·38 |
| 959 | T | 20 8 25 51·9 | 4 54 16·342 | 17 33 53·37 | 0·390 | 13·04 | ... | ... | 0·048 | 1·30 |
| 5438 | A | 20 8 27 15·2 | 4 54 16·557 | 17 33 52·11 | + 0·396 | + 13·05 | + 0·046 | − 1·30 | + 0·047 | − 1·31 |
| 5441 | A | 20 9 44 59·1 | 4 54 28·686 | 17 32 41·22 | 0·678 | 13·84 | 0·065 | 1·29 | ·060 | 1·23 |
| 5452 | A | 25 10 45 49·3 | 5 13 16·989 | 15 44 21·83 | 0·812 | 14·62 | 0·046 | 1·07 | ... | .... |

# ADDENDUM.

THE following measures of additional stars on the Greenwich photographs were made at the request of Mr. Hinks, their places being primarily desired for the reduction of photographs of Eros taken with the Crossley Reflector at the Lick Observatory. These stars were measured after the rest of this work, including the discussion of the solar parallax in the *Introduction*, had been completed.

ADDENDUM.—Measured Co-ordinates and Deduced Mean Places of Additional Stars measured for the reduction of photographs taken with the Crossley Reflector at the Lick Observatory.

| No. | Plate No. and Date. | *x*. | Refraction Correction applied. | *y*. | Refraction Correction applied. | R.A. 1900·0. | Dec. 1900·0. | Remarks. |
|---|---|---|---|---|---|---|---|---|
| | 1900. | ″ | ″ | ″ | ″ | h m s | ° ′ ″ | |
| 1 | 5276 Dec. 6 | 3564·15 | — ·02 | 7907·07 | — ·01 | 1 25 27·280 | + 49 39 59·38 | Very faint and diffused. Of [little value. |
| | 5277 „ | 3573·92 | — ·03 | 7907·10 | — ·03 | 27·143 | 59·86 | Two images only ; very diffused. |
| | 5278 „ | 3573·50 | — ·03 | 7904·35 | — ·05 | 27·273 | 59·28 | Two images only; very faint and diffused. |
| | | | | Mean | | 1 25 27·232 | + 49 39 59·51 | |
| 2 | 5276 Dec. 6 | 3788·51 | ·00 | 4966·97 | ·00 | 1 25 51·463 | + 48 51 2·65 | |
| | 5277 „ | 3798·07 | ·00 | 4966·74 | ·00 | 51·489 | 2·63 | |
| | 5278 „ | 3797·92 | ·00 | 4964·84 | ·00 | 51·435 | 2·54 | |
| | 5279 Dec. 7 | 3709·20 | ·00 | 6392·81 | ·00 | 51·454 | 2·64 | |
| | 5280 „ | 3658·70 | ·00 | 6329·16 | ·00 | 51·467 | 2·65 | |
| | 5283 „ | 3669·61 | — ·01 | 6302·25 | — ·01 | 51·460 | 2·81 | Excessively faint. |
| | | | | Mean | | 1 25 51·461 | + 48 51 2·65 | |
| 3 | 5276 Dec. 6 | 3898·85 | — ·01 | 7585·53 | — ·01 | 1 26 1·827 | + 49 34 39·56 | |
| | 5277 „ | 3909·49 | — ·02 | 7584·66 | — ·03 | 1·803 | 39·41 | |
| | 5278 „ | 3908·01 | — ·03 | 7582·65 | — ·04 | 1·805 | 39·35 | Two images only. |
| | | | | Mean | | 1 26 1·812 | + 49 34 39·44 | |
| 4 | 5276 Dec. 6 | 3995·32 | ·00 | 4777·92 | ·00 | 1 26 12·451 | + 48 47 54·41 | |
| | 5277 „ | 4005·06 | ·00 | 4777·38 | ·00 | 12·510 | 54·24 | Very faint. |
| | 5278 „ | 4004·66 | ·00 | 4775·72 | ·00 | 12·417 | 54·26 | |
| | 5280 Dec. 7 | 3867·33 | ·00 | 6141·82 | ·00 | 12·497 | 54·60 | Two images only. |
| | | | | Mean | | 1 26 12·469 | + 48 47 54·38 | |
| 5 | 5276 Dec. 6 | 4499·10 | ·00 | 4974·73 | ·00 | 1 27 3·412 | + 48 51 11·77 | |
| | 5277 „ | 4508·27 | ·00 | 4973·73 | ·00 | 3·410 | 11·64 | |
| | 5278 „ | 4508·56 | ·00 | 4972·59 | ·00 | 3·402 | 11·89 | Two images only. |
| | 5279 Dec. 7 | 4419·88 | ·00 | 6399·59 | ·00 | 3·397 | 11·55 | |
| | 5280 „ | 4369·19 | ·00 | 6342·09 | ·00 | 3·399 | 11·70 | |
| | | | | Mean | | 1 27 3·404 | + 48 51 11·71 | |
| 6 | 5286 Dec. 9 | 4047·51 | ·00 | 2743·30 | ·00 | 1 27 14·048 | + 47 6 31·77 | |
| | 5287 Dec. 10 | 3176·33 | ·00 | 5497·85 | ·00 | 14·044 | 31·90 | |
| | | | | Mean | | 1 27 14·046 | + 47 6 31·84 | |
| 7 | 5270 Nov. 27 | 2740·76 | + ·01 | 1607·87 | ·00 | 1 27 14·729 | + 50 53 0·73 | |
| | 5271 „ | 2754·65 | ·00 | 1626·64 | ·00 | 14·754 | 0·62 | |
| | 5272 „ | 2808·95 | + ·01 | 1624·83 | ·00 | 14·758 | 1·12 | |
| | 5273 „ | 2777·61 | ·00 | 1648·44 | ·00 | 14·709 | 0·81 | Two images very faint. |
| | 5274 „ | 2773·98 | ·00 | 1648·18 | ·00 | 14·719 | 0·87 | |
| | 5275 Nov. 29 | 3631·40 | ·00 | 3767·31 | ·00 | 14·713 | 0·57 | |
| | | | | Mean | | 1 27 14·730 | + 50 53 0·79 | |
| 8 | 5276 Dec. 6 | 4816·61 | — ·01 | 1192·75 | — ·01 | 1 27 34·785 | + 47 48 12·22 | |
| | 5277 „ | 4823·09 | — ·02 | 1192·15 | — ·02 | 34·749 | 12·21 | |
| | 5278 „ | 4826·06 | — ·02 | 1191·22 | — ·03 | 34·739 | 12·19 | Two images touching *réseau*. |
| | 5279 Dec. 7 | 4732·62 | ·00 | 2617·11 | ·00 | 34·772 | 11·91 | |
| | 5280 „ | 4713·71 | ·00 | 2562·46 | ·00 | 34·764 | 12·07 | |
| | 5283 „ | 4695·76 | ·00 | 2527·46 | ·00 | 34·769 | 12·06 | Excessively faint and dif- [fused. |
| | 5285 Dec. 9 | 4247·23 | ·00 | 5209·54 | ·00 | 34·752 | 12·66 | Two images only. |
| | 5286 „ | 4260·73 | ·00 | 5245·08 | ·00 | 34·740 | 12·15 | |
| | | | | Mean | | 1 27 34·759 | + 47 48 12·18 | |

ADDENDUM.—Measured Co-ordinates and Deduced Mean Places of Additional Stars.

| No. | Plate No. and Date. | x. | Refraction Correction applied. | y. | Refraction Correction applied. | R.A. 1900·0. | Dec. 1900·0. | Remarks. |
|---|---|---|---|---|---|---|---|---|
| | 1900. | ″ | ″ | ″ | ″ | h m s | ° ′ ″ | |
| 9 | 5270 Nov. 27 | 2965·06 | ·00 | 2586·04 | ·00 | 1 27 36·909 | + 51 9 21·36 | |
| | 5271 ,, | 2972·14 | ·00 | 2606·38 | ·00 | 36·899 | 21·34 | |
| | 5272 ,, | 3027·01 | ·00 | 2603·96 | ·00 | 36·905 | 21·34 | |
| | 5273 ,, | 2996·62 | ·00 | 2627·78 | ·00 | 36·946 | 21·27 | |
| | 5274 ,, | 2992·18 | ·00 | 2627·56 | ·00 | 36·883 | 21·34 | |
| | 5275 Nov. 29 | 3845·02 | ·00 | 4747·80 | ·00 | 36·893 | 21·30 | |
| | | | | Mean | | 1 27 36·906 | + 51 9 21·33 | |
| 10 | 5276 Dec. 6 | 4853·30 | − ·01 | 1864·54 | − ·01 | 1 27 38·573 | + 47 59 23·37 | |
| | 5277 ,, | 4861·03 | − ·01 | 1863·60 | − ·02 | 38·623 | 23·17 | Very faint. |
| | 5278 ,, | 4863·05 | − ·01 | 1862·72 | − ·02 | 38·565 | 23·22 | Very faint. |
| | 5280 Dec. 7 | 4746·34 | ·00 | 3234·51 | ·00 | 38·626 | 23·29 | Two images only. |
| | | | | Mean | | 1 27 38·597 | + 47 59 23·26 | |
| 11 | 5276 Dec. 6 | 4863·22 | − ·01 | 1253·63 | − ·01 | 1 27 39·421 | + 47 49 12·94 | |
| | 5277 ,, | 4870·33 | − ·02 | 1252·79 | − ·02 | 39·446 | 12·74 | |
| | 5278 ,, | 4873·30 | − ·03 | 1252·47 | − ·03 | 39·439 | 13·31 | |
| | 5279 Dec. 7 | 4779·22 | ·00 | 2678·18 | ·00 | 39·399 | 12·91 | |
| | 5280 ,, | 4760·00 | ·00 | 2623·85 | ·00 | 39·413 | 13·01 | |
| | 5283 ,, | 4742·22 | ·00 | 2588·73 | ·00 | 39·389 | 13·24 | |
| | 5285 Dec. 9 | 4294·14 | ·00 | 5270·02 | ·00 | 39·402 | 13·14 | Two images only. |
| | 5286 ,, | 4307·84 | ·00 | 5305·95 | ·00 | 39·409 | 13·02 | |
| | | | | Mean | | 1 27 39·415 | + 47 49 13·04 | |
| 12 | 5270 Nov. 27 | 3027·08 | ·00 | 3032·01 | ·00 | 1 27 42·818 | + 51 16 47·84 | Two images only. |
| | 5271 ,, | 3031·36 | ·00 | 3052·63 | ·00 | 42·829 | 47·69 | |
| | 5272 ,, | 3086·66 | ·00 | 3050·33 | ·00 | 42·852 | 47·85 | |
| | 5273 ,, | 3055·82 | ·00 | 3073·90 | ·00 | 42·842 | 47·52 | |
| | 5274 ,, | 3052·11 | ·00 | 3073·94 | ·00 | 42·861 | 47·85 | |
| | 5275 Nov. 29 | 3902·78 | ·00 | 5194·25 | ·00 | 42·854 | 47·65 | |
| | | | | Mean | | 1 27 42·843 | + 51 16 47·73 | |
| 13 | 5286 Dec. 9 | 4427·95 | ·00 | 2008·17 | ·00 | 1 27 51·276 | + 46 54 17·57 | |
| | 5287 Dec. 10 | 3553·55 | ·00 | 4760·82 | ·00 | 51·276 | 17·47 | |
| | | | | Mean | | 1 27 51·276 | + 46 54 17·52 | |
| 14 | 5286 Dec. 9 | 4587·80 | − ·01 | 1107·70 | − ·01 | 1 28 6·777 | 46 39 17·81 | Extremely faint. |
| 15 | 5270 Nov. 27 | 3352·50 | ·00 | 2362·39 | ·00 | 1 28 18·347 | + 51 5 43·03 | |
| | 5271 ,, | 3361·35 | ·00 | 2384·95 | ·00 | 18·368 | 42·70 | |
| | 5272 ,, | 3415·92 | ·00 | 2382·69 | ·00 | 18·353 | 43·10 | |
| | 5273 ,, | 3385·03 | ·00 | 2406·42 | ·00 | 18·341 | 42·98 | |
| | 5274 ,, | 3381·26 | ·00 | 2406·12 | ·00 | 18·346 | 42·93 | |
| | 5275 Nov. 29 | 4235·20 | ·00 | 4528·35 | ·00 | 18·355 | 43·04 | |
| | | | | Mean | | 1 28 18·352 | + 51 5 42·96 | |
| 16 | 5270 Nov. 27 | 3545·74 | ·00 | 4036·30 | ·00 | 1 28 36·868 | + 51 33 37·90 | Two images only. |
| | 5271 ,, | 3543·15 | ·00 | 4060·47 | ·00 | 36·852 | 37·89 | Two images only. |
| | 5272 ,, | 3599·02 | ·00 | 4057·84 | ·00 | 36·874 | 38·01 | Very faint. |
| | 5274 ,, | 3564·08 | ·00 | 4081·59 | ·00 | 36·842 | 38·15 | Two images only. |
| | 5275 Nov. 29 | 4409·97 | ·00 | 6204·44 | ·00 | 36·828 | 38·07 | |
| | | | | Mean | | 1 28 36·853 | + 51 33 38·00 | |

ADDENDUM.—Measured Co-ordinates and Deduced Mean Places of Additional Stars.

| No. | Plate No. and Date. | *x.* | Refraction Correction applied. | *y.* | Refraction Correction applied. | R.A. 1900·0. | Dec. 1900·0. | Remarks. |
|---|---|---|---|---|---|---|---|---|
| | 1900. | ″ | ″ | ″ | ″ | h m s | ° ′ ″ | |
| 17 | 5270 Nov. 27 | 3567·08 | ·00 | 3747·79 | ·00 | 1 28 39·493 | + 51 28 49·83 | Extremely diffused. |
| | 5271 ,, | 3566·41 | ·00 | 3772·16 | ·00 | 39·479 | 49·88 | |
| | 5272 ,, | 3621·91 | ·00 | 3769·16 | ·00 | 39·479 | 49·66 | |
| | 5274 ,, | 3587·50 | ·00 | 3792·70 | ·00 | 39·503 | 49·59 | Two images only. |
| | 5275 Nov. 29 | 4434·77 | ·00 | 5915·78 | ·00 | 39·494 | 49·63 | |
| | | | | Mean | | 1 28 39·490 | + 51 28 49·72 | |
| 18 | 5270 Nov. 27 | 3779·54 | ·00 | 2481·09 | ·00 | 1 29 3·524 | + 51 7 46·22 | |
| | 5271 ,, | 3787·72 | ·00 | 2506·68 | ·00 | 3·557 | 46·12 | |
| | 5272 ,, | 3842·50 | ·00 | 2503·99 | ·00 | 3·557 | 46·34 | |
| | 5273 ,, | 3811·46 | ·00 | 2527·74 | ·00 | 3·523 | 46·30 | |
| | 5274 ,, | 3807·71 | ·00 | 2527·55 | ·00 | 3·531 | 46·32 | |
| | 5275 Nov. 29 | 4661·02 | ·00 | 4651·57 | ·00 | 3·537 | 46·26 | |
| | | | | Mean | | 1 29 3·538 | + 51 7 46·26 | |
| 19 | 5270 Nov. 27 | 3906·92 | ·00 | 3815·51 | ·00 | 1 29 15·782 | + 51 30 0·84 | Two images only. |
| | 5272 ,, | 3961·96 | ·00 | 3839·27 | ·00 | 15·834 | 1·03 | |
| | 5273 ,, | 3931·06 | ·00 | 3862·45 | ·00 | 15·803 | 0·43 | Two images only. |
| | 5274 ,, | 3927·14 | ·00 | 3862·72 | ·00 | 15·810 | 0·88 | |
| | 5275 Nov. 29 | 4774·32 | ·00 | 5987·62 | ·00 | 15·825 | 1·15 | Two images only. |
| | | | | Mean | | 1 29 15·811 | + 51 30 0 87 | |
| 20 | 5270 Nov. 27 | 3899·07 | ·00 | 2429·21 | ·00 | 1 29 16·264 | + 51 6 55·47 | |
| | 5271 ,, | 3907·51 | ·00 | 2455·78 | ·00 | 16·286 | 55·56 | |
| | 5272 ,, | 3962·29 | ·00 | 2453·11 | ·00 | 16·288 | 55·88 | |
| | 5273 ,, | 3931·50 | ·00 | 2476·80 | ·00 | 16·282 | 55·80 | |
| | 5274 ,, | 3927·53 | ·00 | 2476·60 | ·00 | 16·266 | 55·79 | |
| | 5275 Nov. 29 | 4781·30 | ·00 | 4601·20 | ·00 | 16·295 | 55·74 | |
| | | | | Mean | | 1 29 16·280 | + 51 6 55·71 | |
| 21 | 5270 Nov. 27 | 3991·02 | ·00 | 2667·12 | ·00 | 1 29 25·812 | + 51 10 53·98 | |
| | 5271 ,, | 3997·75 | ·00 | 2694·47 | ·00 | 25·819 | 54·26 | |
| | 5272 ,, | 4052·77 | ·00 | 2691·40 | ·00 | 25·833 | 54·22 | |
| | 5273 ,, | 4021·77 | ·00 | 2715·13 | ·00 | 25·800 | 54·19 | |
| | 5274 ,, | 4018·00 | ·00 | 2714·99 | ·00 | 25·810 | 54·23 | |
| | 5275 Nov. 29 | 4870·56 | ·00 | 4840·12 | ·00 | 25·828 | 54·31 | |
| | | | | Mean | | 1 29 25·817 | + 51 10 54·20 | |
| 22 | 5285 Dec. 9 | 5408·42 | + ·01 | 1451·98 | − ·01 | 1 29 27·908 | + 46 45 35·21 | Two images only. |
| | 5286 ,, | 5421·79 | − ·01 | 1487·89 | ·00 | 27·912 | 35·27 | |
| | 5287 Dec. 10 | 4544·98 | ·00 | 4236·41 | ·00 | 27·902 | 35·25 | |
| | 5288 Dec. 13 | 3726·80 | ·00 | 7170·34 | ·00 | 27·868 | 35·15 | Very faint and diffused. |
| | 5289 ,, | 3730·03 | ·00 | 7171·74 | ·00 | 27·898 | 34·95 | Very faint and diffused. |
| | 5290 ,, | 3731·34 | ·00 | 7173·58 | ·00 | 27·916 | 35·48 | |
| | | | | Mean | | 1 29 27·901 | + 46 45 35·22 | |
| 23 | 5270 Nov. 27 | 4141·39 | ·00 | 3024·98 | ·00 | 1 29 41·509 | + 51 16 52·76 | |
| | 5271 ,, | 4145·38 | ·00 | 3052·70 | ·00 | 41·478 | 52·41 | |
| | 5272 ,, | 4200·66 | ·00 | 3050·02 | ·00 | 41·498 | 52·86 | |
| | 5273 ,, | 4170·02 | ·00 | 3073·75 | ·00 | 41·499 | 52·84 | |
| | 5274 ,, | 4165·80 | ·00 | 3073·56 | ·00 | 41·463 | 52·81 | |
| | 5275 Nov. 29 | 5016·61 | ·00 | 5199·36 | ·00 | 41·473 | 52·89 | |
| | | | | Mean | | 1 29 41·487 | + 51 16 52·76 | |

## ADDENDUM.—Measured Co-ordinates and Deduced Mean Places of Additional Stars.

| No. | Plate No. and Date. | x. | Refraction Correction applied. | y. | Refraction Correction applied. | R.A. 1900·0. | Dec. 1900·0. | Remarks. |
|---|---|---|---|---|---|---|---|---|
| | 1900. | ″ | ″ | ″ | ″ | h m s | ° ′ ″ | |
| 24 | 5270 Nov. 27 | 4168·30 | ·00 | 4204·16 | ·00 | 1 29 43·452 | + 51 36 31·33 | Two images only; very faint and diffused. |
| 25 | 5270 Nov. 27 | 4559·27 | ·00 | 3929·00 | ·00 | 1 30 25·541 | + 51 31 58·73 | |
| | 5271 ,, | 4557·35 | ·00 | 3959·79 | ·00 | 25·518 | 58·69 | |
| | 5272 ,, | 4613·73 | ·00 | 3956·58 | ·00 | 25·600 | 58·85 | |
| | 5274 ,, | 4579·06 | ·00 | 3980·12 | ·00 | 25·586 | 58·80 | |
| | 5275 Nov. 29 | 5425·53 | ·00 | 6107·74 | ·00 | 25·579 | 58·70 | |
| | | | | Mean | | 1 30 25·565 | + 51 31 58·75 | |
| 26 | 5254 Nov. 22 | 2046·67 | + ·01 | 2214·90 | ·00 | 1 31 29·006 | + 52 18 32·76 | |
| | 5256 ,, | 1709·67 | − ·02 | 2386·52 | − ·01 | 28·980 | 32·71 | |
| | 5258 ,, | 2074·46 | − ·02 | 2247·81 | − ·01 | 28·984 | 32·67 | |
| | 5261 Nov. 23 | 2619·99 | ·00 | 3069·83 | ·00 | 29·005 | 32·74 | |
| | 5263 ,, | 2643·28 | ·00 | 3097·97 | ·00 | 28·997 | 32·73 | |
| | 5264 ,, | 2653·33 | ·00 | 3097·17 | ·00 | 29·010 | 32·65 | |
| | 5267 Nov. 25 | 4067·32 | ·00 | 4783·97 | ·00 | 29·011 | 33·25 | |
| | 5268 ,, | 3426·32 | ·00 | 4897·05 | ·00 | 28·985 | 32·98 | |
| | 5269 ,, | 2773·49 | ·00 | 4751·02 | ·00 | 29·011 | 33·00 | |
| | | | | Mean | | 1 31 28·999 | + 52 18 32·83 | |
| 27 | 5254 Nov. 22 | 2050·17 | + ·01 | 2393·34 | ·00 | 1 31 29·112 | + 52 21 31·11 | |
| | 5256 ,, | 1713·67 | − ·02 | 2564·94 | − ·01 | 29·090 | 31·02 | |
| | 5258 ,, | 2077·72 | − ·02 | 2425·95 | − ·01 | 29·065 | 30·72 | |
| | 5261 Nov. 23 | 2622·69 | ·00 | 3248·18 | ·00 | 29·088 | 31·00 | |
| | 5263 ,, | 2646·13 | ·00 | 3276·23 | ·00 | 29·087 | 30·89 | |
| | 5264 ,, | 2656·31 | ·00 | 3275·60 | ·00 | 29·113 | 30·98 | |
| | 5267 Nov. 25 | 4068·02 | ·00 | 4962·27 | ·00 | 29·053 | 31·43 | |
| | 5268 ,, | 3428·24 | ·00 | 5075·32 | ·00 | 29·071 | 31·11 | |
| | 5269 ,, | 2775·71 | ·00 | 4929·32 | ·00 | 29·060 | 31·19 | |
| | | | | Mean | | 1 31 29·082 | + 52 21 31·05 | |
| 28 | 5254 Nov. 22 | 2930·93 | ·00 | 2937·61 | ·00 | 1 33 4·653 | + 52 30 45·20 | |
| | 5256 ,, | 2595·63 | − ·01 | 3107·49 | ·00 | 4·635 | 45·38 | |
| | 5258 ,, | 2958·93 | − ·01 | 2970·28 | − ·01 | 4·645 | 45·20 | |
| | 5261 Nov. 23 | 3501·64 | ·00 | 3795·89 | ·00 | 4·655 | 45·32 | |
| | 5263 ,, | 3525·12 | ·00 | 3823·37 | ·00 | 4·613 | 45·21 | |
| | 5264 ,, | 3535·23 | ·00 | 3822·78 | ·00 | 4·630 | 45·36 | |
| | 5267 Nov. 25 | 4942·33 | ·00 | 5517·34 | ·00 | 4·650 | 45·25 | |
| | 5268 ,, | 4304·75 | ·00 | 5626·90 | ·00 | 4·631 | 45·45 | |
| | 5269 ,, | 3654·50 | ·00 | 5477·49 | ·00 | 4·649 | 45·50 | |
| | | | | Mean | | 1 33 4·640 | + 52 30 45·32 | |
| 29 | 5269 Nov. 25 | 3661·92 | ·00 | 6024·46 | ·00 | 1 33 5·199 | + 52 39 51·89 | Two images only. Of little value. |
| 30 | 5256 Nov. 22 | 2665·16 | − ·01 | 2875·44 | ·00 | 1 33 12·515 | + 52 26 54·26 | |
| | 5258 ,, | 3029·05 | − ·01 | 2738·03 | − ·01 | 12·540 | 53·77 | |
| | 5261 Nov. 23 | 3572·37 | ·00 | 3563·99 | ·00 | 12·520 | 53·93 | |
| | 5263 ,, | 3596·12 | ·00 | 3591·13 | ·00 | 12·521 | 53·53 | |
| | 5267 Nov. 25 | 5015·12 | ·00 | 5286·35 | ·00 | 12·511 | 54·16 | |
| | 5268 ,, | 4376·84 | ·00 | 5395·25 | ·00 | 12·530 | 54·00 | |
| | 5269 ,, | 3725·66 | ·00 | 5245·76 | ·00 | 12·539 | 54·07 | |
| | | | | Mean | | 1 33 12·525 | + 52 26 53·96 | |
| 31 | 5330 Dec. 24 | 2480·23 | ·00 | 5230·31 | ·00 | 1 43 25·948 | + 41 36 51·45 | |

ADDENDUM.—Measured Co-ordinates and Deduced Mean Places of Additional Stars.

| No. | Plate No. and Date. | x. | Refraction Correction applied. | y. | Refraction Correction applied. | R.A. 1900·0. | Dec. 1900·0. | Remarks. |
|---|---|---|---|---|---|---|---|---|
| | 1900. | ″ | ″ | ″ | ″ | h m s | ° ′ ″ | |
| 32 | 5330 Dec. 24 | 4080·38 | ·00 | 3393·64 | ·00 | 1 45 48·794 | + 41 6 24·62 | |
| | 5331 Dec. 26 | 1401·96 | − ·01 | 6523·57 | ·00 | 48·770 | 24·78 | |
| | | | | Mean | | 1 45 48·782 | + 41 6 24·70 | |
| 33 | 5330 Dec. 24 | 4798·00 | ·00 | 3938·10 | ·00 | 1 46 52·303 | + 41 15 28·91 | |
| | 5331 Dec. 26 | 2126·40 | − ·01 | 7059·46 | ·00 | 52·328 | 28·68 | |
| | | | | Mean | | 1 46 52·316 | + 41 15 28·80 | |
| 34 | 5331 Dec. 26 | 4598·86 | ·00 | 3496·33 | ·00 | 1 50 31·288 | + 40 16 20·62 | |
| 35 | 5213 Nov. 9 | 900·55 | + ·02 | 4339·94 | ·00 | 1 52 27·410 | 54 23 10·66 | Very faint. |
| | 5214 ,, | 904·76 | ·00 | 4383·70 | ·00 | 27·396 | 10·20 | |
| | 5215 ,, | 898·62 | − ·02 | 4385·33 | ·00 | 27·398 | 10·78 | |
| | 5216 ,, | 913·50 | − ·05 | 4398·44 | − ·02 | 27·429 | 10·65 | |
| | 5217 ,, | 910·59 | − ·05 | 4383·59 | − ·03 | 27·384 | 10·41 | Very diffused. |
| | 5218 Nov. 10 | 1946·56 | + ·01 | 4384·02 | ·00 | 27·356 | 10·78 | |
| | 5219 ,, | 2024·83 | + ·01 | 4375·43 | ·00 | 27·372 | 10·82 | |
| | 5220 ,, | 1964·64 | + ·01 | 4381·04 | ·00 | 27·377 | 10·83 | |
| | 5222 ,, | 1958·63 | ·00 | 4426·46 | ·00 | 27·362 | 10·48 | |
| | 5223 ,, | 1975·27 | ·00 | 4424·00 | ·00 | 27·360 | 10·47 | |
| | 5226 Nov. 11 | 3041·73 | ·00 | 4461·38 | ·00 | 27·362 | 10·83 | |
| | 5227 ,, | 3043·62 | ·00 | 4466·50 | ·00 | 27·371 | 10·76 | |
| | 5228 ,, | 3044·74 | ·00 | 4467·56 | ·00 | 27·385 | 10·97 | |
| | 5229 ,, | 3038·17 | ·00 | 4521·05 | ·00 | 27·359 | 10·72 | Images trailed. |
| | 5234 Nov. 13 | 5141·66 | − ·01 | 4907·37 | ·00 | 27·354 | 10·68 | |
| | 5235 ,, | 5142·02 | − ·01 | 4907·24 | − ·01 | 27·384 | 10·76 | |
| | 5236 ,, | 5151·87 | − ·01 | 4907·66 | − ·01 | 27·385 | 10·98 | |
| | 5237 Nov. 14 | 6163·53 | − ·01 | 5236·74 | ·00 | 27·379 | 10·83 | |
| | 5238 ,, | 6171·93 | − ·01 | 5210·65 | ·00 | 27·380 | 10·69 | |
| | | | | Mean | | 1 52 27·379 | 54 23 10·70 | |
| 36 | 5213 Nov. 9 | 1177·71 | + ·02 | 3751·65 | ·00 | 1 53 0·859 | 54 13 30·61 | Very faint. |
| | 5214 ,, | 1184·78 | ·00 | 3796·75 | ·00 | 0·861 | 30·28 | |
| | 5215 ,, | 1178·70 | − ·02 | 3798·05 | ·00 | 0·861 | 30·46 | |
| | 5216 ,, | 1193·88 | − ·05 | 3811·28 | − ·03 | 0·896 | 30·31 | |
| | 5217 ,, | 1190·37 | − ·05 | 3796·53 | − ·03 | 0·820 | 30·28 | Very diffused. |
| | 5218 Nov. 10 | 2230·90 | + ·01 | 3799·19 | ·00 | 0·841 | 30·78 | |
| | 5219 ,, | 2309·67 | + ·01 | 3790·87 | ·00 | 0·849 | 30·84 | |
| | 5220 ,, | 2249·34 | + ·01 | 3796·41 | ·00 | 0·856 | 30·87 | |
| | 5222 ,, | 2242·68 | ·00 | 3841·56 | ·00 | 0·826 | 30·55 | |
| | 5223 ,, | 2259·59 | ·00 | 3839·19 | ·00 | 0·840 | 30·56 | |
| | 5226 Nov. 11 | 3328·77 | ·00 | 3877·91 | ·00 | 0·825 | 30·74 | |
| | 5227 ,, | 3332·27 | ·00 | 3884·15 | ·00 | 0·828 | 30·96 | |
| | 5228 ,, | 3333·25 | ·00 | 3884·89 | ·00 | 0·836 | 30·93 | |
| | 5229 ,, | 3326·81 | ·00 | 3938·26 | ·00 | 0·833 | 30·61 | Images trailed. |
| | 5234 Nov. 13 | 5438·65 | − ·01 | 4328·85 | ·00 | 0·848 | 30·72 | |
| | 5235 ,, | 5438·56 | − ·01 | 4328·71 | − ·01 | 0·832 | 30·77 | |
| | 5236 ,, | 5448·08 | − ·01 | 4328·76 | − ·01 | 0·834 | 30·75 | |
| | 5237 Nov. 14 | 6466·74 | − ·01 | 4661·09 | ·00 | 0·849 | 30·44 | |
| | 5238 ,, | 6472·17 | − ·01 | 4633·77 | ·00 | 0·835 | 30·56 | |
| | | | | Mean | | 1 53 0·842 | 54 13 30·63 | |
| 37 | 5209 Nov. 6 | 4498·09 | ·00 | 3884·51 | ·00 | 2 5 31·133 | + 54 12 3·69 | Two images only. |
| | 5214 Nov. 9 | 7770·51 | ·00 | 3713·67 | ·00 | 31·100 | 3·84 | |
| | 5215 ,, | 7763·80 | − ·02 | 3715·74 | ·00 | 31·108 | 3·95 | |
| | 5216 ,, | 7776·91 | − ·05 | 3729·83 | − ·02 | 31·054 | 4·04 | |
| | 5217 ,, | 7773·93 | − ·05 | 3710·55 | − ·03 | 31·071 | 3·83 | Very faint and diffused. |
| | | | | Mean | | 2 5 31·093 | + 54 12 3·87 | |

## ADDENDUM.—Measured Co-ordinates and Deduced Mean Places of Additional Stars.

| No. | Plate No. and Date. | *x*. | Refraction Correction applied. | *y*. | Refraction Correction applied. | R.A. 1900·0. | Dec. 1900·0. | Remarks. |
|---|---|---|---|---|---|---|---|---|
| | 1900. | " | " | " | " | h m s | ° ′ ″ | |
| 38 | 5209 Nov. 6 | 6097·34 | + ·01 | 3769·61 | ·00 | 2 8 33·124 | + 54 9 57·90 | |
| 39 | 5207 Oct. 31 | 2524·43 | − ·01 | 5083·32 | ·00 | 2 13 40·975 | + 53 57 5·77 | |
| | 5208 ,, | 2527·92 | − ·01 | 5085·10 | ·00 | 40·996 | 5·26 | |
| | | | | Mean | | 2 13 40·986 | + 53 57 5·52 | |
| 40 | 5205 Oct. 29 | 837·40 | + ·05 | 5458·81 | − ·03 | 2 14 15·057 | + 53 44 59·90 | |
| | 5206 ,, | 845·19 | + ·05 | 5459·13 | − ·03 | 15·054 | 59·88 | |
| | 5207 Oct. 31 | 2821·77 | − ·01 | 4353·89 | ·00 | 15·000 | 60·10 | |
| | 5208 ,, | 2824·70 | − ·01 | 4356·03 | ·00 | 15 002 | 60·09 | |
| | | | | Mean | | 2 14 15·028 | + 53 44 59·99 | |
| 41 | 5201 Oct. 27 | 1637·33 | ·00 | 5685·76 | ·00 | 2 19 17·102 | + 53 26 7·94 | Two images only. |
| | 5202 ,, | 1629·05 | − ·02 | 5682·72 | ·00 | 17·074 | 8·16 | Two images only. |
| | 5203 ,, | 1627·45 | − ·02 | 5683·14 | − ·01 | 17·113 | 8·54 | Two images only. |
| | 5208 Oct. 31 | 5514·06 | − ·01 | 3218·69 | ·00 | 17·106 | 8·01 | |
| | | | | Mean | | 2 19 17·099 | + 53 26 8·16 | |
| 42 | 5186 Oct. 26 | 1406·16 | ·00 | 5880·96 | ·00 | 2 20 31·640 | + 53 17 3·64 | |
| | 5187 ,, | 1401·38 | ·00 | 5881·75 | ·00 | 31·674 | 3·66 | |
| | 5189 ,, | 1411·47 | − ·02 | 5885·26 | − ·01 | 31·654 | 3·66 | |
| | 5190 ,, | 1425·08 | − ·03 | 5886·10 | − ·01 | 31·647 | 3·56 | |
| | 5200 Oct. 27 | 2296·84 | ·00 | 5133·08 | ·00 | 31·673 | 3·80 | |
| | 5201 ,, | 2297·05 | ·00 | 5130·79 | ·00 | 31·675 | 3·56 | |
| | 5202 ,, | 2288·43 | − ·01 | 5127·16 | ·00 | 31·663 | 3·71 | |
| | 5203 ,, | 2286·61 | − ·01 | 5127·53 | ·00 | 31·667 | 3·93 | |
| | 5204 Oct. 28 | 2789·59 | − ·01 | 4396·15 | ·00 | 31·653 | 3·62 | |
| | 5205 Oct. 29 | 4176·82 | ·00 | 3740·82 | ·00 | 31·655 | 3·91 | |
| | 5206 ,, | 4185·61 | ·00 | 3742·25 | ·00 | 31·654 | 3·71 | |
| | 5207 Oct. 31 | 6185·15 | − ·01 | 2680·25 | ·00 | 31·662 | 3·89 | |
| | 5208 ,, | 6186·87 | − ·01 | 2680·31 | ·00 | 31·637 | 3·76 | |
| | | | | Mean | | 2 20 31·658 | + 53 17 3·72 | |
| 43 | 5186 Oct. 26 | 4091·21 | ·00 | 3970·28 | ·00 | 2 25 31·254 | + 52 45 43·19 | |
| | 5187 ,, | 4086·23 | ·00 | 3971·18 | ·00 | 31·263 | 43·31 | |
| | 5189 ,, | 4095·64 | ·00 | 3973·72 | ·00 | 31·259 | 43·27 | |
| | 5190 ,, | 4109·12 | ·00 | 3974·10 | ·00 | 31·261 | 43·02 | |
| | 5200 Oct. 27 | 4994·72 | ·00 | 3241·03 | ·00 | 31·263 | 43·24 | |
| | 5201 ,, | 4993·69 | ·00 | 3237·15 | ·00 | 31·270 | 43·23 | |
| | 5202 ,, | 4983·32 | ·00 | 3231·47 | ·00 | 31·248 | 43·44 | |
| | 5203 ,, | 4982·03 | ·00 | 3231·92 | ·00 | 31·282 | 43·34 | |
| | 5204 Oct. 28 | 5490·66 | − ·01 | 2509·21 | ·00 | 31·257 | 43·62 | |
| | | | | Mean | | 2 25 31·262 | + 52 45 43·30 | |
| 44 | 5186 Oct. 26 | 5177·74 | ·00 | 4213·94 | ·00 | 2 27 31·003 | + 52 49 45·15 | |
| | 5187 ,, | 5172·55 | ·00 | 4214·63 | ·00 | 30·991 | 45·07 | |
| | 5189 ,, | 5181·98 | ·00 | 4216·97 | ·00 | 31·010 | 45·27 | |
| | 5190 ,, | 5195·20 | ·00 | 4217·19 | ·00 | 30·987 | 45·03 | |
| | 5200 Oct. 27 | 6079·44 | ·00 | 3492·25 | ·00 | 30·997 | 45·33 | |
| | 5201 ,, | 6078·29 | ·00 | 3487·66 | ·00 | 30·970 | 45·32 | |
| | 5202 ,, | 6068·12 | − ·01 | 3481·00 | ·00 | 30·978 | 45·47 | |
| | 5203 ,, | 6066·54 | − ·01 | 3481·61 | − ·01 | 30·989 | 45·42 | |
| | 5204 Oct. 28 | 6574·78 | − ·02 | 2762·26 | − ·01 | 30·999 | 45·63 | |
| | | | | Mean | | 2 27 30·992 | + 52 49 45·30 | |

## ADDENDUM.—Measured Co-ordinates and Deduced Mean Places of Additional Stars.

| No. | Plate No. and Date. | x. | Refraction Correction applied. | y. | Refraction Correction applied. | R.A. 1900·0. | Dec. 1900·0. | Remarks. |
|---|---|---|---|---|---|---|---|---|
| | 1900. | ″ | ″ | ″ | ″ | h m s | ° ′ ″ | |
| 45 | 5173 Oct. 21 | 1327·16 | + ·09 | 6971·58 | — ·08 | 2 27 (44·985) | 52 24 (21·14) | |
| | 5177 ,, | 1398·42 | ·00 | 7025·98 | ·00 | 44·916 | 21·40 | |
| | 5186 Oct. 26 | 5312·69 | ·00 | 2689·85 | ·00 | 44·915 | 21·39 | |
| | 5187 ,, | 5307·44 | ·00 | 2690·85 | ·00 | 44·895 | 21·60 | |
| | 5189 ,, | 5316·56 | ·00 | 2692·93 | ·00 | 44·908 | 21·52 | |
| | 5190 ,, | 5329·89 | — ·01 | 2693·63 | ·00 | 44·905 | 21·60 | |
| | 5200 Oct. 27 | 6224·81 | ·00 | 1969·18 | ·00 | 44·891 | 21·65 | |
| | 5201 ,, | 6222·98 | ·00 | 1964·58 | ·00 | 44·903 | 21·73 | |
| | 5202 ,, | 6211·68 | — ·01 | 1957·82 | ·00 | 44·891 | 21·80 | |
| | 5203 ,, | 6210·29 | — ·01 | 1958·40 | — ·01 | 44·890 | 21·64 | |
| | 5204 Oct. 28 | 6723·16 | — ·03 | 1239·45 | — ·01 | 44·891 | 22·08 | |
| | | | | Mean | | 2 27 44·901 | 52 24 21·64 | |
| 46 | 5186 Oct. 26 | 5639·63 | ·00 | 2904·42 | ·00 | 2 28 20·795 | 52 27 53·62 | Two images only. |
| | 5187 ,, | 5634·78 | ·00 | 2905·56 | ·00 | 20·819 | 53·97 | Two images only. |
| | 5190 ,, | 5656·38 | — ·01 | 2908·34 | ·00 | 20·740 | 54·27 | |
| | 5201 Oct. 27 | 6548·43 | ·00 | 2181·62 | ·00 | 20·768 | 54·32 | Two images only. |
| | 5202 ,, | 6537·46 | — ·01 | 2174·13 | ·00 | 20·784 | 53·96 | Two images only ; excessively faint. |
| | | | | Mean | | 2 28 20·781 | 52 27 54·03 | |
| 47 | 5169 Oct. 20 | 1326·98 | ·00 | 7395·76 | ·00 | 2 28 49·168 | 52 14 18·86 | |
| | 5170 ,, | 1314·48 | ·00 | 7390·66 | ·00 | 49·140 | 18·92 | |
| | 5173 Oct. 21 | 1905·57 | + ·05 | 6359·36 | — ·04 | 49·159 | 18·91 | |
| | 5177 ,, | 1977·49 | ·00 | 6413·10 | ·00 | 49·147 | 19·00 | |
| | 5186 Oct. 26 | 5906·59 | ·00 | 2091·41 | ·00 | 49·140 | 18·96 | |
| | 5187 ,, | 5901·40 | ·00 | 2092·37 | ·00 | 49·127 | 19·15 | |
| | 5189 ,, | 5910·28 | — ·01 | 2094·45 | ·00 | 49·136 | 19·25 | |
| | 5190 ,, | 5923·73 | — ·01 | 2094·75 | — ·01 | 49·153 | 19·10 | |
| | 5200 Oct. 27 | 6822·90 | ·00 | 1374·65 | ·00 | 49·113 | 19·09 | |
| | 5201 ,, | 6820·43 | ·00 | 1369·85 | ·00 | 49·098 | 19·37 | |
| | 5202 ,, | 6808·90 | — ·02 | 1362·48 | — ·01 | 49·112 | 19·30 | |
| | 5203 ,, | 6807·58 | — ·02 | 1363·17 | — ·01 | 49·110 | 19·15 | |
| | 5204 Oct. 28 | 7322·09 | — ·04 | 646·19 | — ·01 | (49·089) | (19·89) | |
| | | | | Mean | | 2 28 49·134 | 52 14 19·09 | |
| 48 | 5177 Oct. 21 | 2278·29 | ·00 | 6547·28 | ·00 | 2 29 21·667 | 52 16 37·45 | Two images only ; very faint. |
| | 5186 Oct. 26 | 6204·31 | ·00 | 2233·23 | ·00 | 21·698 | 37·59 | Very faint. |
| | 5187 ,, | 6199·32 | ·00 | 2234·15 | ·00 | 21·708 | 37·73 | Very faint. |
| | 5189 ,, | 6207·93 | — ·01 | 2236·23 | ·00 | 21·691 | 37·95 | Two images only; very faint. |
| | 5190 ,, | 6220·54 | — ·01 | 2236·48 | — ·01 | 21·616 | 37·81 | Very faint. |
| | 5202 Oct. 27 | 7105·41 | — ·03 | 1506·50 | — ·01 | 21·631 | 38·50 | Two images only; excessively faint. |
| | | | | Mean | | 2 29 21·669 | 52 16 37·84 | |
| 49 | 5169 Oct. 20 | 2155·27 | ·00 | 7423·60 | ·00 | 2 30 19·201 | 52 15 0·86 | |
| | 5173 Oct. 21 | 2733·47 | + ·03 | 6390·59 | — ·03 | 19·205 | 0·22 | |
| | 5177 ,, | 2805·73 | ·00 | 6443·60 | ·00 | 19·202 | 0·09 | Two images only. |
| | 5186 Oct. 26 | 6733·82 | ·00 | 2142·81 | ·00 | 19·192 | 0·44 | |
| | 5187 ,, | 6728·88 | ·00 | 2143·56 | ·00 | 19·206 | 0·41 | |
| | 5189 ,, | 6737·41 | — ·02 | 2145·36 | — ·01 | 19·195 | 0·56 | |
| | 5190 ,, | 6750·60 | — ·02 | 2145·47 | — ·01 | 19·187 | 0·34 | |
| | 5201 Oct. 27 | 7647·27 | ·00 | 1426·59 | ·00 | 19·128 | 0·08 | Two images only : excessively faint. |
| | 5202 ,, | 7635·46 | — ·03 | 1418·66 | — ·01 | 19·126 | 0·14 | Two images only; very diffused. |
| | | | | Mean | | 2 30 19·182 | 52 15 0·35 | |

## ADDENDUM.—Measured Co-ordinates and Deduced Mean Places of Additional Stars.

| No. | Plate No. and Date. | x. | Refraction Correction applied. | y. | Refraction Correction applied. | R.A. 1900·0. | Dec. 1900·0. | Remarks. |
|---|---|---|---|---|---|---|---|---|
| | 1900. | " | " | " | " | h m s | ° ′ ″ | |
| 50 | 5173 Oct. 21 | 2977·89 | + ·04 | 6754·25 | − ·04 | 2 30 45·472 | 52 21 5·89 | Two images only. |
| | 5177 ,, | 3050·08 | ·00 | 6807·71 | ·00 | 45·450 | 6·28 | |
| | 5186 Oct. 26 | 6969·00 | ·00 | 2512·35 | ·00 | 45·426 | 6·06 | |
| | 5187 ,, | 6963·92 | ·00 | 2513·21 | ·00 | 45·426 | 6·15 | |
| | 5189 ,, | 6972·60 | − ·02 | 2515·01 | − ·01 | 45·429 | 6·40 | Two images only; very diffused. |
| | 5190 ,, | 6985·93 | − ·02 | 2515·37 | − ·01 | 45·436 | 6·49 | |
| | 5201 Oct. 27 | 7880·25 | ·00 | 1797·58 | ·00 | 45·377 | 6·74 | Two images only. |
| | | | | Mean | | 2 30 45·431 | 52 21 6·29 | |
| 51 | 5172 Oct. 20 | 3338·80 | ·00 | 6314·11 | ·00 | 2 32 39·449 | 51 56 37·00 | Excessively faint. |
| 52 | 5169 Oct. 20 | 3823·78 | ·00 | 5459·48 | ·00 | 2 33 21·584 | 51 42 33·69 | |
| | 5170 ,, | 3811·72 | ·00 | 5454·62 | ·00 | 21·583 | 33·64 | |
| | 5172 ,, | 3724·97 | ·00 | 5468·02 | ·00 | 21·604 | 33·76 | |
| | 5173 Oct. 21 | 4409·88 | ·00 | 4436·24 | ·00 | 21·583 | 34·03 | Two images only. |
| | 5177 ,, | 4482·79 | ·00 | 4486·95 | ·00 | 21·615 | 33·06 | Two images only. |
| | | | | Mean | | 2 33 21·594 | 51 42 33·64 | |
| 53 | 5169 Oct. 20 | 3909·87 | ·00 | 5128·49 | ·00 | 2 33 30·961 | + 51 37 3·25 | |
| | 5170 ,, | 3897·90 | ·00 | 5123·75 | ·00 | 30·964 | 3·31 | |
| | 5172 ,, | 3810·98 | ·00 | 5137·08 | ·00 | 30·994 | 3·42 | |
| | 5173 Oct. 21 | 4497·46 | ·00 | 4105·66 | ·00 | 30·968 | 3·50 | |
| | 5177 ,, | 4570·03 | ·00 | 4157·06 | ·00 | 30·962 | 3·33 | |
| | | | | Mean | | 2 33 30·970 | + 51 37 3·36 | |
| 54 | 5169 Oct. 20 | 3932·10 | ·00 | 4972·60 | ·00 | 2 33 33·401 | + 51 34 27·55 | |
| | 5170 ,, | 3920·21 | ·00 | 4967·75 | ·00 | 33·411 | 27·50 | |
| | 5172 ,, | 3833·23 | ·00 | 4981·02 | ·00 | 33·446 | 27·56 | |
| | 5173 Oct. 21 | 4520·07 | ·00 | 3949·63 | ·00 | 33·375 | 27·49 | |
| | 5177 ,, | 4592·96 | ·00 | 4001·00 | ·00 | 33·404 | 27·35 | |
| | | | | Mean | | 2 33 33·407 | + 51 34 27·49 | |
| 55 | 5160 Oct. 14 | 3154·75 | ·00 | 6652·72 | ·00 | 2 37 40·514 | + 50 12 16·15 | |
| | 5161 ,, | 3178·36 | ·00 | 6649·49 | ·00 | 40·510 | 16·04 | |
| | 5162 Oct. 15 | 3287·20 | + ·01 | 5365·95 | − ·01 | 40·494 | 16·33 | |
| | | | | Mean | | 2 37 40·506 | + 50 12 16·17 | |
| 56 | 5160 Oct. 14 | 3173·95 | ·00 | 6878·30 | ·00 | 2 37 42·354 | + 50 16 1·71 | |
| | 5161 ,, | 3197·91 | ·00 | 6875·17 | ·00 | 42·351 | 1·72 | |
| | 5162 Oct. 15 | 3306·12 | + ·01 | 5591·37 | − ·01 | 42·325 | 1·68 | |
| | | | | Mean | | 2 37 42·343 | + 50 16 1·70 | |
| 57 | 5154 Oct. 10 | 2849·69 | + ·07 | 7828·95 | − ·07 | 2 40 8·372 | + 49 8 23·65 | |
| | 5160 Oct. 14 | 4580·62 | ·00 | 2814·07 | ·00 | 8·369 | 23·99 | |
| | 5161 ,, | 4598·97 | ·00 | 2808·80 | ·00 | 8·403 | 23·94 | |
| | 5162 Oct. 15 | 4716·39 | + ·03 | 1529·39 | − ·03 | 8·424 | 23·76 | |
| | | | | Mean | | 2 40 8·392 | + 49 8 23·84 | |
| 58 | 5160 Oct. 14 | 4650·27 | ·00 | 3829·56 | ·00 | 2 40 15·648 | + 49 25 18·72 | Two images only. |
| | 5161 ,, | 4669·62 | ·00 | 3824·82 | ·00 | 15·631 | 19·30 | Three images only. |
| | | | | Mean | | 2 40 15·640 | + 49 25 19·01 | |

ADDENDUM.—Measured Co-ordinates and Deduced Mean Places of Additional Stars.

| No. | Plate No. and Date. | x. | Refraction Correction applied. | y. | Refraction Correction applied. | R.A. 1900·0. | Dec. 1900·0. | Remarks. |
|---|---|---|---|---|---|---|---|---|
| | 1900. | ″ | ″ | ″ | ″ | h m s | ° ′ ″ | |
| 59 | 5154 Oct. 10 | 3014·42 | + ·07 | 7688·89 | − ·07 | 2 40 25·258 | + 49 6 4·96 | |
| | 5160 Oct. 14 | 4747·05 | ·00 | 2675·36 | ·00 | 25·283 | 5·07 | |
| | 5161 „ | 4764·48 | ·00 | 2669·77 | ·00 | 25·243 | 4·93 | |
| | 5162 Oct. 15 | 4882·36 | + ·03 | 1390·70 | − ·03 | 25·286 | 4·68 | |
| | | | | Mean | | 2 40 25·268 | + 49 6 4·91 | |
| 60 | 5154 Oct. 10 | 3085·78 | + ·07 | 8013·87 | − ·07 | 2 40 32·280 | + 49 11 30·21 | Two images only; very [diffused. |
| | 5160 Oct. 14 | 4814·91 | ·00 | 3001·48 | ·00 | 32·279 | 30·82 | |
| | 5161 „ | 4833·20 | ·00 | 2996·27 | ·00 | 32·278 | 31·17 | |
| | | | | Mean | | 2 40 32·279 | + 49 11 30·73 | |
| 61 | 5160 Oct. 14 | 4887·52 | ·00 | 3723·46 | ·00 | 2 40 39·911 | + 49 23 32·11 | |
| | 5161 „ | 4906·92 | ·00 | 3717·97 | ·00 | 39·914 | 32·39 | |
| | 5162 Oct. 15 | 5022·09 | + ·02 | 2439·38 | − ·02 | 39·923 | 32·20 | |
| | | | | Mean | | 2 40 39·916 | + 49 23 32·20 | |
| 62 | 5154 Oct. 10 | 3224·63 | + ·06 | 7700·51 | − ·06 | 2 40 46·643 | + 49 6 17·99 | |
| | 5160 Oct. 14 | 4957·36 | ·00 | 2688·84 | ·00 | 46·689 | 17·96 | |
| | 5161 „ | 4974·77 | ·00 | 2682·96 | ·00 | 46·645 | 17·85 | |
| | 5162 Oct. 15 | 5092·49 | + ·03 | 1404·92 | − ·03 | 46·676 | 18·03 | |
| | | | | Mean | | 2 40 46·663 | + 49 6 17·96 | |
| 63 | 5160 Oct. 14 | 4976·38 | ·00 | 3267·83 | ·00 | 2 40 48·837 | + 49 15 56·49 | |
| | 5161 „ | 4995·13 | ·00 | 3261·89 | ·00 | 48·842 | 56·36 | |
| | | | | Mean | | 2 40 48·840 | + 49 15 56·43 | |
| 64 | 5160 Oct. 14 | 5013·87 | ·00 | 4566·03 | ·00 | 2 40 53·176 | + 49 37 33·72 | Two images only. |
| | 5161 „ | 5034·24 | ·00 | 4560·12 | ·00 | 53·151 | + 33·67 | |
| | | | | Mean | | 2 40 53·164 | + 49 37 33·70 | |
| 65 | 5161 Oct. 14 | 5039·83 | ·00 | 3588·20 | ·00 | 2 40 53·485 | + 49 21 22·35 | Two images only. |
| 66 | 5160 Oct. 14 | 5031·07 | ·00 | 3948·88 | ·00 | 2 40 54·694 | + 49 27 16·89 | |
| | 5161 „ | 5050·67 | ·00 | 3943·02 | ·00 | 54·684 | 16·93 | |
| | 5162 Oct. 15 | 5165·32 | + ·02 | 2664·60 | − ·01 | 54·698 | 16·63 | |
| | | | | Mean | | 2 40 54·692 | + 49 27 16·82 | |
| 67 | 5154 Oct. 10 | 3309·12 | + ·05 | 7439·71 | − ·05 | 2 40 55·404 | + 49 1 57·84 | Two images only. |
| | 5161 Oct. 14 | 5061·83 | ·00 | 2423·29 | ·00 | 55·437 | 58·17 | |
| | | | | Mean | | 2 40 55·421 | + 49 1 58·01 | |
| 68 | 5154 Oct. 10 | 3555·65 | + ·05 | 7451·81 | − ·05 | 2 41 20·453 | + 49 2 11·15 | Two images only.<br>Very faint. |
| | 5161 Oct. 14 | 5307·96 | ·00 | 2437·21 | ·00 | 20·450 | 11·32 | |
| | | | | Mean | | 2 41 20·452 | + 49 2 11·24 | |
| 69 | 5160 Oct. 14 | 5650·79 | ·00 | 3088·23 | ·00 | 2 41 57·549 | + 49 12 53·33 | |
| | 5161 „ | 5669·24 | ·00 | 3081·44 | ·00 | 57·551 | 53·34 | |
| | | | | Mean | | 2 41 57·550 | + 49 12 53·34 | |

## ADDENDUM.—Measured Co-ordinates and Deduced Mean Places of Additional Stars.

| No. | Plate No. and Date. | $x$. | Refraction Correction applied. | $y$. | Refraction Correction applied. | R.A. 1900·0. | Dec. 1900·0. | Remarks. |
|---|---|---|---|---|---|---|---|---|
| | 1900. | ″ | ″ | ″ | ″ | h m s | ° ′ ″ | |
| 70 | 5154 Oct. 10 | 3931·65 | + ·02 | 6486·29 | − ·02 | 2 41 58·925 | + 48 46 7·37 | |
| | 5160 Oct. 14 | 5676·54 | ·00 | 1480·92 | ·00 | 58·945 | 7·06 | |
| | 5161 ,, | 5692·43 | ·00 | 1474·33 | ·00 | 58·927 | 7·31 | |
| | | | | Mean | | 2 41 58·932 | + 48 46 7·25 | |
| 71 | 5154 Oct. 10 | 4032·34 | ·00 | 5414·73 | ·00 | 2 42 9·327 | + 48 28 16·47 | |
| 72 | 5154 Oct. 10 | 4098·67 | + ·03 | 7560·04 | − ·04 | 2 42 15·626 | + 49 4 0·79 | Very diffused. |
| | 5160 Oct. 14 | 5832·79 | ·00 | 2556·03 | ·00 | 15·649 | 0·13 | Two images only. |
| | 5161 ,, | 5850·49 | ·00 | 2548·98 | ·00 | 15·654 | 0·14 | |
| | | | | Mean | | 2 42 15·643 | + 49 4 0·35 | |
| 73 | 5143 Oct. 7 | 3633·21 | + ·01 | 7586·58 | − ·01 | 2 42 29·571 | + 48 3 16·20 | Very diffused; measures doubtful; of little value. |
| | 5146 ,, | 3648·96 | + ·01 | 7477·70 | − ·01 | 29·587 | 15·58 | Very diffused. |
| | | | | Mean | | 2 42 29·579 | + 48 3 15·89 | |
| 74 | 5142 Oct. 7 | 4022·76 | ·00 | 5559·13 | ·00 | 2 42 32·146 | + 47 23 39·65 | |
| | 5143 ,, | 3649·25 | ·00 | 5208·42 | ·00 | 32·144 | 39·78 | |
| | 5145 ,, | 3646·98 | ·00 | 5139·09 | ·00 | 32·099 | 39·86 | Two images very faint. |
| | 5146 ,, | 3651·64 | ·00 | 5100·13 | ·00 | 32·144 | 39·83 | |
| | 5148 Oct. 8 | 3794·55 | ·00 | 4093·32 | ·00 | 32·120 | 39·50 | Two images only. |
| | 5150 ,, | 3817·68 | ·00 | 3866·24 | ·00 | 32·169 | 39·30 | Two images only; very diffused. |
| | 5152 ,, | 3885·58 | ·00 | 3905·46 | ·00 | 32·150 | 39·72 | Two images only; very faint. |
| | 5154 Oct. 10 | 4256·29 | + ·03 | 1535·85 | − ·03 | 32·151 | 39·40 | |
| | | | | Mean | | 2 42 32·140 | + 47 23 39·63 | |
| 75 | 5143 Oct. 7 | 3696·63 | + ·01 | 7590·70 | − ·01 | 2 42 35·888 | + 48 3 20·57 | Very diffused; of little value. |
| | 5146 ,, | 3712·48 | + ·01 | 7482·66 | − ·01 | 35·911 | 21·15 | Very diffused. |
| | | | | Mean | | 2 42 35·900 | + 48 3 20·86 | |
| 76 | 5143 Oct. 7 | 3700·88 | + ·01 | 7349·63 | − ·01 | 2 42 36·406 | + 47 59 19·72 | Very diffused. |
| | 5145 ,, | 3708·67 | + ·01 | 7279·71 | − ·01 | 36·399 | 19·45 | Two images only; very diffused. |
| | 5146 ,, | 3715·62 | ·00 | 7240·91 | ·00 | 36·451 | 19·64 | |
| | 5152 Oct. 8 | 3933·70 | ·00 | 6046·69 | ·00 | 36·359 | 19·69 | Two images only. |
| | 5154 Oct. 10 | 4300·74 | ·00 | 3677·43 | ·00 | 36·404 | 20·05 | Two images only. |
| | | | | Mean | | 2 42 36·404 | + 47 59 19·71 | |
| 77 | 5141 Oct. 5 | 3762·94 | + ·02 | 7087·24 | − ·01 | 2 43 (4·006) | + 47 10 (3·58) | Two images only. |
| | 5142 Oct. 7 | 4346·13 | ·00 | 4742·99 | ·00 | 3·998 | 4·31 | |
| | 5143 ,, | 3971·00 | ·00 | 4391·46 | ·00 | 4·007 | 4·35 | |
| | 5145 ,, | 3965·51 | ·00 | 4320·67 | ·00 | 4·007 | 4·43 | Very faint. |
| | 5146 ,, | 3968·70 | ·00 | 4281·23 | ·00 | 3·991 | 4·26 | |
| | 5148 Oct. 8 | 4116·85 | ·00 | 3276·75 | ·00 | 3·970 | 3·91 | |
| | 5154 Oct. 10 | 4580·57 | + ·03 | 720·06 | − ·05 | 3·997 | 3·91 | Very faint and diffused. |
| | | | | Mean | | 2 43 3·995 | + 47 10 4·20 | |
| 78 | 5141 Oct. 5 | 3897·65 | + ·01 | 6557·95 | − ·01 | 2 43 (17·346) | + 47 1 (14·98) | |
| | 5142 Oct. 7 | 4482·86 | ·00 | 4213·85 | ·00 | 17·377 | 15·43 | |
| | 5143 ,, | 4106·24 | ·00 | 3862·10 | ·00 | 17·349 | 15·56 | |
| | 5145 ,, | 4098·56 | ·00 | 3790·42 | ·00 | 17·369 | 15·39 | |
| | 5146 ,, | 4101·22 | ·00 | 3751·14 | ·00 | 17·353 | 15·49 | |
| | 5148 Oct. 8 | 4252·94 | + ·01 | 2747·82 | − ·01 | 17·352 | 15·32 | |
| | 5150 ,, | 4277·04 | ·00 | 2520·97 | ·00 | 17·365 | 15·41 | |
| | 5152 ,, | 4344·71 | ·00 | 2559·38 | ·00 | 17·375 | 15·24 | |
| | | | | Mean | | 2 43 17·363 | + 47 1 15·41 | |

ADDENDUM.—Measured Co-ordinates and Deduced Mean Places of Additional Stars.

| No. | Plate No. and Date. | $x$. | Refraction Correction applied. | $y$. | Refraction Correction applied. | R.A. 1900·0. | Dec. 1900·0. | Remarks. |
|---|---|---|---|---|---|---|---|---|
| | 1900. | ″ | ″ | ″ | ″ | h m s | ° ′ ″ | |
| 79 | 5141 Oct. 5 | 3927·97 | + ·01 | 6357·75 | − ·01 | 2 43 (20·359) | + 46 57 (54·97) | Two images only. |
| | 5142 Oct. 7 | 4513·04 | ·00 | 4013·08 | ·00 | 20·315 | 54·75 | Two images touching *réseau*. |
| | 5143 „ | 4136·29 | ·00 | 3662·00 | ·00 | 20·316 | 55·62 | |
| | 5145 „ | 4127·37 | ·00 | 3590·09 | ·00 | 20·302 | 55·35 | |
| | 5146 „ | 4129·94 | ·00 | 3550·81 | ·00 | 20·299 | 55·49 | |
| | 5148 Oct. 8 | 4282·97 | + ·01 | 2546·85 | − ·01 | 20·301 | 54·46 | Very faint and diffused. |
| | 5152 „ | 4374·79 | ·00 | 2359·25 | ·00 | 20·317 | 55·24 | Two images only. |
| | | | | Mean | | 2 43 20·308 | + 46 57 55·15 | |
| 80 | 5142 Oct. 7 | 4521·35 | + ·01 | 6397·68 | − ·01 | 2 43 21·273 | + 47 37 37·95 | |
| | 5143 „ | 4149·72 | ·00 | 6045·85 | ·00 | 21·279 | 38·08 | |
| | 5145 „ | 4151·57 | ·00 | 5974·11 | ·00 | 21·265 | 38·06 | |
| | 5146 „ | 4156·86 | ·00 | 5934·89 | ·00 | 21·287 | 38·28 | |
| | 5148 Oct. 8 | 4294·45 | ·00 | 4931·28 | ·00 | 21·284 | 37·86 | |
| | 5150 „ | 4316·30 | ·00 | 4704·74 | ·00 | 21·266 | 37·82 | |
| | 5152 „ | 4384·89 | ·00 | 4743·32 | ·00 | 21·280 | 37·80 | |
| | 5154 Oct. 10 | 4753·96 | + ·02 | 2375·35 | − ·02 | 21·287 | 37·98 | |
| | | | | Mean | | 2 43 21·278 | + 47 37 37·98 | |
| 81 | 5142 Oct. 7 | 4614·56 | + ·01 | 6638·54 | − ·01 | 2 43 30·514 | + 47 41 38·55 | |
| | 5143 „ | 4243·46 | ·00 | 6286·38 | ·00 | 30·522 | 38·55 | |
| | 5145 „ | 4246·34 | ·00 | 6214·39 | ·00 | 30·504 | 38·70 | |
| | 5146 „ | 4251·76 | ·00 | 6174·81 | ·00 | 30·512 | 38·67 | |
| | 5148 Oct. 8 | 4387·93 | ·00 | 5172·18 | ·00 | 30·525 | 38·64 | |
| | 5150 „ | 4409·81 | ·00 | 4945·31 | ·00 | 30·530 | 38·18 | Extremely diffused. |
| | 5152 „ | 4477·93 | ·00 | 4983·87 | ·00 | 30·488 | 38·18 | |
| | 5154 Oct. 10 | 4846·62 | + ·01 | 2616·50 | − ·02 | 30·512 | 38·78 | |
| | | | | Mean | | 2 43 30·513 | + 47 41 38·53 | |
| 82 | 5139 Oct. 4 | 3969·06 | + ·01 | 5637·89 | − ·01 | 2 43 30·842 | + 46 24 5·52 | |
| | 5142 Oct. 7 | 4623·40 | + ·01 | 1982·38 | − ·01 | 30·865 | 5·14 | |
| | 5143 „ | 4242·42 | + ·01 | 1630·18 | − ·01 | 30·874 | 5·25 | |
| | 5145 „ | 4224·26 | ·00 | 1557·80 | ·00 | 30·853 | 4·98 | |
| | 5146 „ | 4224·93 | ·00 | 1518·44 | ·00 | 30·871 | 5·16 | |
| | | | | Mean | | 2 43 30·861 | + 46 24 5·21 | |
| 83 | 5142 Oct. 7 | 4625·46 | ·00 | 5593·42 | ·00 | 2 43 31·472 | + 47 24 14·08 | |
| | 5143 „ | 4251·84 | ·00 | 5241·46 | ·00 | 31·451 | 14·30 | |
| | 5145 „ | 4250·21 | ·00 | 5169·46 | ·00 | 31·452 | 14·48 | Very faint. |
| | 5146 „ | 4255·06 | ·00 | 5129·94 | ·00 | 31·511 | 14·51 | |
| | | | | Mean | | 2 43 31·472 | + 47 24 14·34 | |
| 84 | 5142 Oct. 7 | 4632·20 | + ·01 | 6757·25 | − ·01 | 2 43 32·275 | + 47 43 37·15 | |
| | 5143 „ | 4261·26 | ·00 | 6405·07 | ·00 | 32·273 | 37·18 | |
| | 5145 „ | 4264·72 | ·00 | 6333·04 | ·00 | 32·259 | 37·37 | |
| | 5146 „ | 4270·21 | ·00 | 6293·51 | ·00 | 32·262 | 37·41 | |
| | 5148 Oct. 8 | 4405·83 | ·00 | 5291·22 | ·00 | 32·288 | 37·66 | |
| | 5150 „ | 4427·58 | ·00 | 5064·41 | ·00 | 32·290 | 37·18 | |
| | 5152 „ | 4495·44 | ·00 | 5102·67 | ·00 | 32·217 | 36·89 | |
| | 5154 Oct. 10 | 4864·09 | + ·01 | 2735·02 | − ·02 | 32·270 | 37·21 | |
| | | | | Mean | | 2 43 32·267 | + 47 43 37·26 | |

## ADDENDUM.—Measured Co-ordinates and Deduced Mean Places of Additional Stars.

| No. | Plate No. and Date. | x. | Refraction Correction applied. | y. | Refraction Correction applied. | R.A. 1900·0. | Dec. 1900·0. | Remarks. |
|---|---|---|---|---|---|---|---|---|
| | 1900. | ″ | ″ | ″ | ″ | h m s | ° ′ ″ | |
| 85 | 5139 Oct. 4 | 4008·24 | + ·01 | 6383·16 | − ·01 | 2 43 34·475 | + 46 36 30·51 | Very faint. |
| | 5142 Oct. 7 | 4659·89 | ·00 | 2728·32 | ·00 | 34·489 | 30·56 | |
| | 5143 ,, | 4280·38 | ·00 | 2376·10 | ·00 | 34·484 | 30·69 | |
| | 5145 ,, | 4265·91 | ·00 | 2303·73 | ·00 | 34·494 | 30·61 | |
| | 5146 ,, | 4266·83 | ·00 | 2264·20 | ·00 | 34·471 | 30·66 | |
| | 5152 Oct. 8 | 4520·10 | ·00 | 1074·30 | ·00 | 34·424 | 31·26 | Two images only. |
| | | | | Mean | | 2 43 34·473 | + 46 36 30·72 | |
| 86 | 5141 Oct. 5 | 4114·36 | + ·02 | 7141·25 | − ·02 | 2 43 (38·440) | + 47 10 (58·31) | |
| | 5142 Oct. 7 | 4697·64 | ·00 | 4798·07 | ·00 | 38·458 | 59·08 | |
| | 5143 ,, | 4322·54 | ·00 | 4446·09 | ·00 | 38·456 | 59·45 | |
| | 5145 ,, | 4317·32 | ·00 | 4373·31 | ·00 | 38·457 | 59·07 | |
| | 5146 ,, | 4320·56 | ·00 | 4333·67 | ·00 | 38·439 | 59·16 | |
| | 5148 Oct. 8 | 4468·45 | ·00 | 3331·68 | ·00 | 38·437 | 58·88 | |
| | 5150 ,, | 4492·03 | ·00 | 3105·67 | ·00 | 38·444 | 59·60 | Two images touching *réseau.* |
| | 5152 ,, | 4560·01 | ·00 | 3143·34 | ·00 | 38·461 | 58·76 | |
| | 5154 Oct. 10 | 4932·14 | + ·04 | 776·10 | − ·05 | 38·470 | 59·09 | |
| | | | | Mean | | 2 43 38·453 | + 47 10 59·14 | |
| 87 | 5141 Oct. 5 | 4198·67 | + ·02 | 7329·58 | − ·02 | 2 43 (46·686) | + 47 14 (6·58) | |
| | 5142 Oct. 7 | 4781·42 | ·00 | 4986·74 | ·00 | 46·707 | 7·50 | |
| | 5143 ,, | 4406·46 | ·00 | 4634·16 | ·00 | 46·680 | 7·43 | |
| | 5145 ,, | 4401·98 | ·00 | 4561·49 | ·00 | 46·670 | 7·64 | |
| | 5146 ,, | 4405·78 | ·00 | 4521·69 | ·00 | 46·688 | 7·58 | |
| | 5148 Oct. 8 | 4552·33 | ·00 | 3520·24 | ·00 | 46·675 | 7·27 | |
| | 5150 ,, | 4574·99 | ·00 | 3293·33 | ·00 | 46·608 | 7·01 | Two images touching *réseau.* |
| | 5152 ,, | 4644·00 | ·00 | 3331·92 | ·00 | 46·718 | 7·12 | |
| | 5154 Oct. 10 | 5015·71 | + ·04 | 964·36 | − ·05 | 46·722 | 6·94 | |
| | | | | Mean | | 2 43 46·684 | + 47 14 7·31 | |
| 88 | 5139 Oct. 4 | 4208·14 | + ·01 | 6112·29 | − ·01 | 2 43 53·894 | + 46 31 59·99 | Two images only. |
| | 5142 Oct. 7 | 4861·05 | + ·01 | 2457·15 | − ·01 | 53·934 | 59·16 | |
| | 5143 ,, | 4481·47 | ·00 | 2104·72 | ·00 | 53·980 | 59·55 | |
| | 5145 ,, | 4465·19 | ·00 | 2031·42 | ·00 | 53·923 | 59·45 | |
| | 5146 ,, | 4465·98 | ·00 | 1991·63 | ·00 | 53·913 | 59·45 | |
| | 5152 Oct. 8 | 4721·43 | ·00 | 802·28 | ·00 | 53·903 | 59·27 | Two images only. |
| | | | | Mean | | 2 43 53·925 | + 46 31 59·48 | |
| 89 | 5141 Oct. 5 | 4276·68 | + ·01 | 6692·93 | − ·01 | 2 43 (54·385) | + 47 3 (30·38) | Two images only. |
| | 5142 Oct. 7 | 4861·23 | ·00 | 4349·85 | ·00 | 54·390 | 30·76 | |
| | 5143 ,, | 4485·54 | ·00 | 3997·43 | ·00 | 54·424 | 31·07 | |
| | 5145 ,, | 4478·24 | ·00 | 3924·09 | ·00 | 54·419 | 30·98 | |
| | 5146 ,, | 4481·17 | ·00 | 3884·74 | ·00 | 54·417 | 31·42 | |
| | 5148 Oct. 8 | 4631·54 | + ·01 | 2883·85 | − ·01 | 54·375 | 31·07 | |
| | 5152 ,, | 4723·49 | ·00 | 2695·10 | ·00 | 54·412 | 30·63 | Two images only. |
| | | | | Mean | | 2 43 54·406 | + 47 3 30·99 | |
| 90 | 5139 Oct. 4 | 4257·26 | + ·01 | 6372·21 | − ·01 | 2 43 58·631 | + 46 36 19·82 | |
| | 5142 Oct. 7 | 4909·60 | ·00 | 2718·09 | − ·01 | 58·707 | 19·84 | |
| | 5143 ,, | 4529·80 | ·00 | 2365·52 | ·00 | 58·674 | 20·14 | |
| | 5145 ,, | 4515·17 | ·00 | 2291·91 | ·00 | 58·671 | 19·95 | |
| | 5146 ,, | 4516·27 | ·00 | 2251·88 | ·00 | 58·656 | 19·77 | |
| | 5152 Oct. 8 | 4769·82 | ·00 | 1063·26 | ·00 | 58·637 | 19·92 | Two images only. |
| | | | | Means | | 2 43 58·663 | + 46 36 19·91 | |

## ADDENDUM.—Measured Co-ordinates and Deduced Mean Places of Additional Stars.

| No. | Plate No. and Date. | x. | Refraction Correction applied. | y. | Refraction Correction applied. | R.A. 1900·0. | Dec. 1900·0. | Remarks. |
|---|---|---|---|---|---|---|---|---|
|  | 1900. | " | " | " | " | h m s | ° ′ ″ |  |
| 91 | 5142 Oct. 7 | 4919·33 | + ·01 | 6439·05 | − ·01 | 2 44 0·630 | + 47 38 18·55 |  |
|  | 5143 ,, | 4547·71 | ·00 | 6086·14 | ·00 | 0·627 | 18·49 |  |
|  | 5145 ,, | 4549·90 | ·00 | 6012·83 | ·00 | 0·627 | 18·72 |  |
|  | 5146 ,, | 4555·06 | ·00 | 5972·82 | ·00 | 0·631 | 18·58 |  |
|  | 5152 Oct. 8 | 4782·68 | ·00 | 4784·49 | ·00 | 0·611 | 18·60 | Two images only. |
|  | 5154 Oct. 10 | 5151·37 | + ·02 | 2417·06 | − ·02 | 0·604 | 18·33 |  |
|  |  |  |  | Mean |  | 2 44 0·622 | + 47 38 18·55 |  |
| 92 | 5141 Oct. 5 | 4477·69 | + ·02 | 7393·18 | − ·02 | 2 44 (14·068) | + 47 15 (10·13) |  |
|  | 5142 Oct. 7 | 5060·25 | ·00 | 5050·96 | ·00 | 14·091 | 10·87 |  |
|  | 5143 ,, | 4685·71 | ·00 | 4697·97 | ·00 | 14·091 | 11·02 |  |
|  | 5145 ,, | 4681·68 | ·00 | 4623·39 | ·00 | 14·096 | 10·62 |  |
|  | 5146 ,, | 4685·37 | ·00 | 4583·79 | ·00 | 14·096 | 11·01 |  |
|  | 5148 Oct. 8 | 4831·75 | ·00 | 3584·35 | ·00 | 14·114 | 10·81 |  |
|  | 5150 ,, | 4855·15 | ·00 | 3357·60 | ·00 | 14·115 | 10·58 |  |
|  | 5152 ,, | 4922·84 | ·00 | 3395·96 | ·00 | 14·092 | 10·59 |  |
|  | 5154 Oct. 10 | 5294·57 | + ·05 | 1029·41 | − ·05 | 14·122 | 10·73 |  |
|  |  |  |  | Mean |  | 2 44 14·102 | + 47 15 10·78 |  |
| 93 | 5141 Oct. 5 | 4629·72 | + ·01 | 6327·07 | − ·01 | 2 44 (28·874) | + 46 57 (24·53) | Two images only. |
|  | 5142 Oct. 7 | 5215·55 | ·00 | 3985·15 | ·00 | 28·894 | 25·06 |  |
|  | 5143 ,, | 4838·68 | ·00 | 3631·79 | ·00 | 28·887 | 25·20 |  |
|  | 5145 ,, | 4829·83 | ·00 | 3556·70 | ·00 | 28·890 | 24·97 |  |
|  | 5146 ,, | 4832·28 | ·00 | 3516·61 | ·00 | 28·878 | 25·04 |  |
|  | 5148 Oct. 8 | 4985·96 | + ·01 | 2517·98 | − ·01 | 28·936 | 24·49 | Very diffused. |
|  | 5152 ,, | 5077·89 | ·00 | 2329·95 | ·00 | 28·941 | 24·83 | Two images only. |
|  |  |  |  | Mean |  | 2 44 28·904 | + 46 57 24·93 |  |
| 94 | 5139 Oct. 4 | 4679·73 | + ·01 | 6378·83 | − ·01 | 2 44 39·609 | + 46 36 26·16 |  |
|  | 5141 Oct. 5 | 4741·76 | ·00 | 5068·18 | ·00 | (39·606) | (26·08) |  |
|  | 5142 Oct. 7 | 5331·67 | + ·01 | 2725·63 | − ·01 | 39·640 | 25·74 |  |
|  | 5143 ,, | 4952·06 | + ·01 | 2372·39 | − ·01 | 39·626 | 26·32 |  |
|  | 5145 ,, | 4937·66 | ·00 | 2296·67 | ·00 | 39·641 | 25·98 |  |
|  | 5146 ,, | 4938·77 | ·00 | 2256·33 | ·00 | 39·627 | 25·92 |  |
|  | 5148 Oct. 8 | 5100·17 | + ·03 | 1259·00 | − ·04 | 39·644 | 25·81 |  |
|  | 5150 ,, | 5125·97 | + ·01 | 1032·11 | − ·01 | 39·670 | 25·76 |  |
|  | 5152 ,, | 5192·80 | ·00 | 1070·50 | ·00 | 39·653 | 25·94 |  |
|  |  |  |  | Mean |  | 2 44 39·639 | + 46 36 25·95 |  |

## ADDENDUM.—Mean Places of Additional Stars.

| No. | R.A. 1900·0. | | | Dec. 1900·0. | | | No. | R.A. 1900·0. | | | Dec. 1900·0. | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | h | m | s | ° | ′ | ″ | | h | m | s | ° | ′ | ″ |
| 1 | 1 | 25 | 27·232 | + 49 | 39 | 59·51 | 48 | 2 | 29 | 21·669 | + 52 | 16 | 37·84 |
| 2 | | 25 | 51·461 | 48 | 51 | 2·65 | 49 | | 30 | 19·182 | 52 | 15 | 0·35 |
| 3 | | 26 | 1·812 | 49 | 34 | 39·44 | 50 | | 30 | 45·431 | 52 | 21 | 6·29 |
| 4 | | 26 | 12·469 | 48 | 47 | 54·38 | 51 | | 32 | 39·449 | 51 | 56 | 37·00 |
| 5 | | 27 | 3·404 | 48 | 51 | 11·71 | 52 | | 33 | 21·594 | 51 | 42 | 33·64 |
| 6 | | 27 | 14·046 | 47 | 6 | 31·84 | 53 | | 33 | 30·970 | 51 | 37 | 3·36 |
| 7 | | 27 | 14·730 | 50 | 53 | 0·79 | 54 | | 33 | 33·407 | 51 | 34 | 27·49 |
| 8 | | 27 | 34·759 | 47 | 48 | 12·18 | 55 | | 37 | 40·506 | 50 | 12 | 16·17 |
| 9 | | 27 | 36·906 | 51 | 9 | 21·33 | 56 | | 37 | 42·343 | 50 | 16 | 1·70 |
| 10 | | 27 | 38·597 | 47 | 59 | 23·26 | 57 | | 40 | 8·392 | 49 | 8 | 23·84 |
| 11 | | 27 | 39·415 | 47 | 49 | 13·04 | 58 | | 40 | 15·640 | 49 | 25 | 19·01 |
| 12 | | 27 | 42·843 | 51 | 16 | 47·73 | 59 | | 40 | 25·268 | 49 | 6 | 4·91 |
| 13 | | 27 | 51·276 | 46 | 54 | 17·52 | 60 | | 40 | 32·279 | 49 | 11 | 30·73 |
| 14 | | 28 | 6·777 | 46 | 39 | 17·81 | 61 | | 40 | 39·916 | 49 | 23 | 32·20 |
| 15 | | 28 | 18·352 | 51 | 5 | 42·96 | 62 | | 40 | 46·663 | 49 | 6 | 17·96 |
| 16 | | 28 | 36·853 | 51 | 33 | 38·00 | 63 | | 40 | 48·840 | 49 | 15 | 56·43 |
| 17 | | 28 | 39·490 | 51 | 28 | 49·72 | 64 | | 40 | 53·164 | 49 | 37 | 33·70 |
| 18 | | 29 | 3·538 | 51 | 7 | 46·26 | 65 | | 40 | 53·485 | 49 | 21 | 22·35 |
| 19 | | 29 | 15·811 | 51 | 30 | 0·87 | 66 | | 40 | 54·692 | 49 | 27 | 16·82 |
| 20 | | 29 | 16·280 | 51 | 6 | 55·71 | 67 | | 40 | 55·421 | 49 | 1 | 58·01 |
| 21 | | 29 | 25·817 | 51 | 10 | 54·20 | 68 | | 41 | 20·452 | 49 | 2 | 11·24 |
| 22 | | 29 | 27·901 | 46 | 45 | 35·22 | 69 | | 41 | 57·550 | 49 | 12 | 53·34 |
| 23 | | 29 | 41·487 | 51 | 16 | 52·76 | 70 | | 41 | 58·932 | 48 | 46 | 7·25 |
| 24 | | 29 | 43·452 | 51 | 36 | 31·33 | 71 | | 42 | 9·327 | 48 | 28 | 16·47 |
| 25 | | 30 | 25·565 | 51 | 31 | 58·75 | 72 | | 42 | 15·643 | 49 | 4 | 0·35 |
| 26 | | 31 | 28·999 | 52 | 18 | 32·83 | 73 | | 42 | 29·579 | 48 | 3 | 15·89 |
| 27 | | 31 | 29·082 | 52 | 21 | 31·05 | 74 | | 42 | 32·140 | 47 | 23 | 39·63 |
| 28 | | 33 | 4·640 | 52 | 30 | 45·32 | 75 | | 42 | 35·900 | 48 | 3 | 20·86 |
| 29 | | 33 | 5·199 | 52 | 39 | 51·89 | 76 | | 42 | 36·404 | 47 | 59 | 19·71 |
| 30 | | 33 | 12·525 | 52 | 26 | 53·96 | 77 | | 43 | 3·995 | 47 | 10 | 4·20 |
| 31 | | 43 | 25·948 | 41 | 36 | 51·45 | 78 | | 43 | 17·363 | 47 | 1 | 15·41 |
| 32 | | 45 | 48·782 | 41 | 6 | 24·70 | 79 | | 43 | 20·308 | 46 | 57 | 55·15 |
| 33 | | 46 | 52·316 | 41 | 15 | 28·80 | 80 | | 43 | 21·278 | 47 | 37 | 37·98 |
| 34 | | 50 | 31·288 | 40 | 16 | 20·62 | 81 | | 43 | 30·513 | 47 | 41 | 38·53 |
| 35 | | 52 | 27·379 | 54 | 23 | 10·70 | 82 | | 43 | 30·861 | 46 | 24 | 5·21 |
| 36 | 1 | 53 | 0·842 | 54 | 13 | 30·63 | 83 | | 43 | 31·472 | 47 | 24 | 14·34 |
| 37 | 2 | 5 | 31·093 | 54 | 12 | 3·87 | 84 | | 43 | 32·267 | 47 | 43 | 37·26 |
| 38 | | 8 | 33·124 | 54 | 9 | 57·90 | 85 | | 43 | 34·473 | 46 | 36 | 30·72 |
| 39 | | 13 | 40·986 | 53 | 57 | 5·52 | 86 | | 43 | 38·453 | 47 | 10 | 59·14 |
| 40 | | 14 | 15·028 | 53 | 44 | 59·99 | 87 | | 43 | 46·684 | 47 | 14 | 7·31 |
| 41 | | 19 | 17·099 | 53 | 26 | 8·16 | 88 | | 43 | 53·925 | 46 | 31 | 59·48 |
| 42 | | 20 | 31·658 | 53 | 17 | 3·72 | 89 | | 43 | 54·406 | 47 | 3 | 30·99 |
| 43 | | 25 | 31·262 | 52 | 45 | 43·30 | 90 | | 43 | 58·663 | 46 | 36 | 19·91 |
| 44 | | 27 | 30·992 | 52 | 49 | 45·30 | 91 | | 44 | 0·622 | 47 | 38 | 18·55 |
| 45 | | 27 | 44·901 | 52 | 24 | 21·64 | 92 | | 44 | 14·102 | 47 | 15 | 10·78 |
| 46 | | 28 | 20·781 | 52 | 27 | 54·03 | 93 | | 44 | 28·904 | 46 | 57 | 24·93 |
| 47 | 2 | 28 | 49·134 | + 52 | 14 | 19·09 | 94 | 2 | 44 | 39·639 | + 46 | 36 | 25·95 |

ROYAL OBSERVATORY, GREENWICH.

# OBSERVATIONS OF THE PLANET

# EROS.

1900–1901.